

ATHLETIC JOURNAL

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Our Future Fliers Take to Boxing

Isaac F. Destor, Lieutenant U. S. N. R.

The Two-Fold Objective of Wrestling in Navy Pre-Flight Training

Charles M. Speidel, Lieutenant U. S. N. R.
Frank D. Gardner, Lieutenant (i.g.) U. S. N. R.

A Fast-Break Coaching Philoso- phy for the High-School Basketball Team

COLLEGE LIAISON Joseph W. Hanley
BUTEMAN

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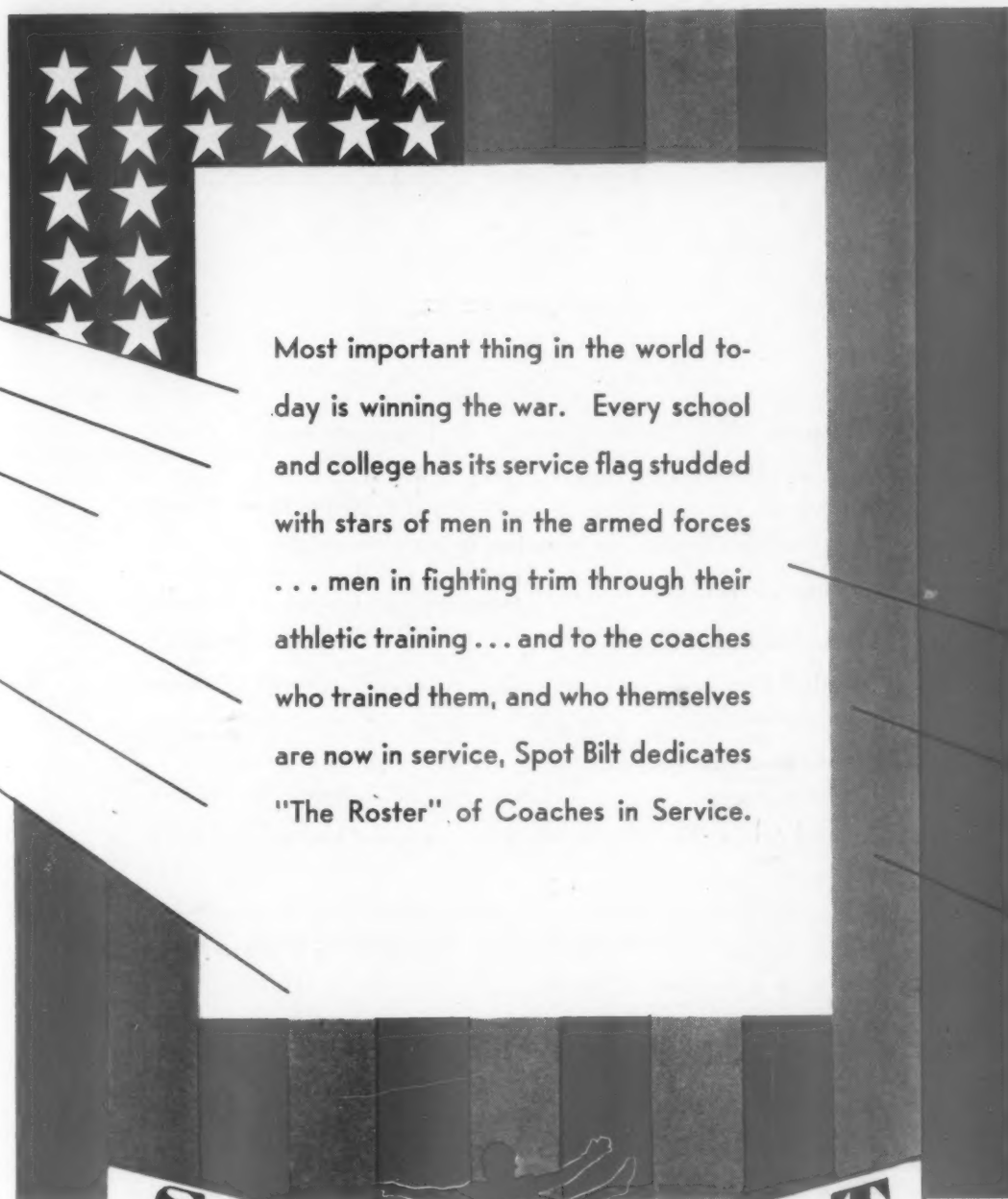
★ SPOTBILT ★ Salute

The Roster:

- ★ BANK, THEODORE P., Colonel, Head—U. S. Army Athletics. Football Coach, University of Idaho.
- ★ BARRY, J. M. (SAM), Lieut. Comdr., Navy.
Football Coach, University of Southern California.
- ★ BASTON, BERT, Colonel, Army.
Assistant Football Coach, University of Minnesota.
- ★ BAUMGARTEN, MAURICE A., Lieut. (j.g.), Navy.
Football Coach, Stephen F. Austin College.
- ★ BELL, MADISON, Lieut. Comdr., Navy.
Football Coach, Southern Methodist University.
- ★ BENGSTON, PHIL, Lieut., Navy.
Assistant Football Coach, Stanford University.
- ★ BIERMAN, BERNIE, Lieut. Colonel, Navy.
Football Coach, University of Minnesota.
- ★ BINGHAM, W. J. (BILL), Major, Army.
Athletic Director, Harvard University.
- ★ BRUMBELOW, LESTER, "MIKE," Lieut., Navy.
Assistant Football Coach, Texas Christian University.
- ★ BRYANT, PAUL, Lieut., Navy.
Assistant Football Coach, Vanderbilt University.
- ★ CAIN, JOHN L., Lieut. (j.g.), Navy.
Football Coach, Southwestern Louisiana Institute.
- ★ CLARK, GEORGE C., Lieut. Comdr., Navy.
Football Coach, University of Grand Rapids.
- ★ CLARK, H. W. (ESKIE), Major, Army.
Director of Athletics, Lafayette College.
- ★ CROWLEY, JIM, Lieut. Comdr., Navy.
Football Coach, Fordham University.
- ★ DOBSON, ADNA, Ensign, Navy.
Assistant Football Coach, Cornell University.
- ★ DRUZE, JOHN F., Ensign, Navy.
Assistant Football Coach, University of Notre Dame.
- ★ ELWARD, MAL, Lieut. Comdr., Navy.
Football Coach, Purdue University.
- ★ EVASHEVSKI, FOREST, Ensign, Navy.
Assistant Football Coach, Pittsburgh University.
- ★ FRIEDMAN, BENNY, Lieut., Navy.
Football Coach, College of the City of New York.
- ★ GAGE, FRED, Ensign, Navy.
Assistant Football Coach, University of Wisconsin.
- ★ GAMAGE, HARRY, Captain, Army.
Football Coach, University of South Dakota.
- ★ GARY, M. J., Lieut., Navy.
Football Coach, Western Michigan St. Teachers College.
- ★ GENY, CHARLES F. W., Ensign, Navy.
Assistant Football Coach, Vanderbilt University.
- ★ HANLEY, PAT, Major, Marines.
Football Coach, Boston University.
- ★ HANNA, JOSEPH L., JR., Lieut. (j.g.), Navy.
Football Coach, Centenary College.
- ★ HANSON, RAY, Major, Marines.
Football Coach, Illinois St. Teachers College (Macomb).
- ★ HARLOW, RICHARD, Lieut. Comdr., Navy.
Football Coach, Harvard University.
- ★ HARMESON, GLENN W., Lieut., Navy.
Football Coach, Lehigh University.
- ★ HARMON, HARVEY, Lieut. Comdr., Navy.
Football Coach, Rutgers University.
- ★ HEAP, DON, Lieut., Navy.
Football Coach, Illinois Wesleyan University.
- ★ HEISLER, FRITZ, Lieut. (j.g.), Navy.
Assistant Football Coach, Ohio State University.
- ★ HICKERSON, JOSEPH E., Ensign, Navy.
Assistant Football Coach, University of Alabama.
- ★ HINKLE, TONY, Lieut., Navy.
Football Coach, Butler University.
- ★ HOWELL, WILLARD F., Lieut. (j.g.), Navy.
Football Coach, Arizona St. Tchrs. Col. (Tempe).
- ★ HUBBARD, CLYDE W., Major, Army Air Corps.
Football Coach, University of Denver.
- ★ HUNTER, WILLIS O. (BILL), Lieut. Comdr., Navy.
Athletic Director, University of Southern California.
- ★ JOHNN, HAROLD, Ensign, Navy.
Omaha University.
- ★ JONES, L. M. (BIFF), Colonel, U. S. Military Academy.
Football Coach, University of Nebraska.
- ★ KOSTKA, STAN, Lieut., Navy.
Football Coach, North Dakota State College.
- ★ LANGDALE, N. NOAH, JR., Ensign, Navy.
Assistant Football Coach, University of Alabama.
- ★ LEFFLER, W. T., Ensign, Navy.
Assistant Football Coach, Furman University.
- ★ McARDLE, JOSEPH, Lieut. (j.g.), Navy.
Assistant Football Coach, University of Notre Dame.
- ★ McCORMICK, FRANK, Major, Army.
Director of Athletics, University of Minnesota.
- ★ McNEISH, ROBERT, Lieut., Navy.
Assistant Football Coach, Univ. So. Cal.
- ★ MANSKE, EDGAR, Lieut. (j.g.), Navy.
Assistant Football Coach, Holy Cross College.
- ★ MARSH, FRED E., Lieut. (j.g.), Navy.
Assistant Football Coach, Bowling Green St. U.
- ★ METCALF, NELSON, Lieut. Comdr., Navy.
Director of Athletics, University of Chicago.
- ★ MULLINS, LARRY, Lieut., Navy.
Assistant Football Coach, University of Florida.
- ★ MURFF, RALPH H., Lieut., Navy.
Assistant Football Coach, Stephen F. Austin College.
- ★ NELSON, E. W., Lieut., Navy.
Football Coach, Yale University.
- ★ NEYLAND, R. R., Colonel, Army.
Football Coach, University of Tennessee.
- ★ OLIVER, GERALD A., Lieut. Comdr., Navy.
Football Coach, University of Oregon.
- ★ PATTERSON, JOSEPH W., JR., Ensign, Navy.
Assistant Football Coach, Baylor University.
- ★ REES, TREVOR, Lieut., Navy.
Assistant Football Coach, Ohio State University.
- ★ ROBINSON, BREHMAN, Lieut. (j.g.), Navy.
Assistant Football Coach, University of Arizona.
- ★ SABO, JOHNNY, Lieut. Comdr., Navy.
Assistant Football Coach, Yale University.
- ★ SCHWAGEL, ROME F., Lieut. (j.g.), Navy.
Director of Athletics, Georgetown University.
- ★ SELBY, SAM, Lieut., Navy.
Director of Athletics, Otterbein College.
- ★ SISCO, JACK, Lieut., Navy.
Football Coach, North Texas State Teachers College.
- ★ SMITH, RUSSELL T., Lieut. Comdr., Navy.
Assistant Football Coach, Louisiana State University.
- ★ STEEN, FRANK G., Ensign, Navy.
Football Coach, Austin College.
- ★ STEWART, ALFRED L., Lieut. (j.g.), Navy.
Football Coach, University of Tampa.
- ★ THOMSEN, FRED, Captain, Army Air Force, Director of Athletics and Football Coach, University of Arkansas.
- ★ WADE, WALLACE, Lieut. Col., Army.
Athletic Director & Football Coach, Duke University.
- ★ WICKHORST, FRANK, Lieut. Comdr., Navy.
Line Coach, University of California at Berkeley.
- ★ WOLF, RAYMOND W., Lieut., Navy.
Football Coach, University of North Carolina.

This roster represents a partial list of coaches now in the service. Additional names will be printed in subsequent issues. Wiffell-Sheill Company, 1635 Augusta Boulevard, Chicago.

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The ATHLETIC JOURNAL

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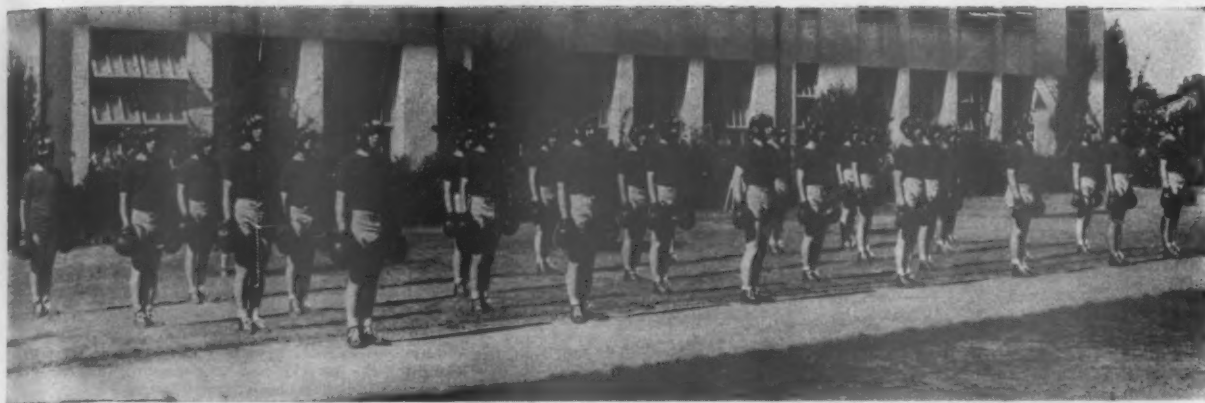


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Mass Attention—Cadets line up preparatory to daily boxing drill. Mass on Guard—Cadets take the preliminary position from which all movements begin.

Our Future Fliers Take to Boxing

By Isaac F. Deeter, Lieutenant, U. S. N. R.

Officer in Charge of Boxing, United States Navy Pre-Flight School, St. Mary's
Formerly Boxing Coach, Washington State College

BOXING, always a popular war-time activity, is as old as the art of war itself. In boxing training and participation, we have a closely paralleled condition to that of air fighting.

Alert perception, quick reaction and split-second timing, the feint, slip, parry and counter, and the do-or-die spirit, climaxed by the two-fisted finishing attack, are as much a part of boxing as they are of aerial combat.

Since those who are responsible for the boxing programs in the pre-flight schools are coaches and instructors with college backgrounds, it is only natural that they should adopt the National Collegiate Athletic Association rules to guide the program of our future air fighters.

In fostering boxing, the Navy has surrounded the sport with every known safeguard, such as adequate rings, head gears, mouthpieces, large 16-ounce gloves, aluminum cup supporters, requires the presence of a doctor at all bouts, and has secured the best college coaches and in-

structors. A boxing mask is provided for cadets who have fragile noses and delicate bridge work so as to give them an opportunity to do some real ring fighting.

The pre-flight boxing program is divided into three parts: mass instruction, sports program or intramural, and varsity.

Mass instruction boxing is taught to all cadets. It consists of ten drills of forty-five minutes each, ranging over a period of two weeks. Here the cadets are taught the fundamentals of boxing, such as the correct making of a fist and the "on guard" position with hands up, shoulder high, chin down, and weight forward on the toes with the right heel off the deck.

Next, the fundamental movements and steps are taught and practiced, such as the advance, right step and left step. The retreat is given, but not encouraged, since the type of fighter in which the Navy is interested is the aggressive two-fisted attacker.

Fundamental blows taught include the

left lead or jab with its defensive and offensive qualities, and the right cross, which is the sleep producer or K.O. punch. Then we take up the left hook and upper cut for close-in fighting and roughing it in the clinch.

For the defensive side of boxing, blocking, parrying, slipping, countering, ducking, and footwork are practiced.

These offensive and defensive maneuvers are practiced by a series of progressive drills. Each drill is executed on a military command. Cadets are lined up in a military formation for moves such as advance, right step and left step. The command of execution is "hep." For the punches and striking moves the command is "strike." The third drill calls for three one-minute rounds of supervised boxing. Each day the length of the rounds is increased until by the tenth drill, the cadets are boxing three two-minute rounds.

In addition to the drills, activities such as rope skipping, shadow boxing, heavy and fast bag punching, and medicine-



Left Jab—The basic punch and the leading punch of the boxing offense.



Left Hook—Third punch in the offense repertory that usually follows the straight right.



Right Uppercut—The surprise weapon of the attack, and a damaging punch, when landed squarely.



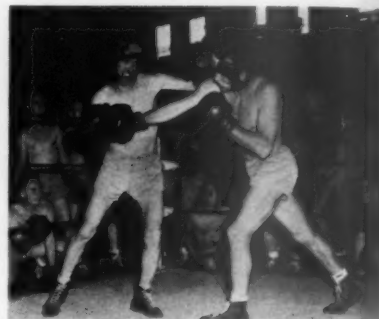
Straight Right—The follow-up of the left jab and the big gun of the offense.

The illustrations of this article and the front cover illustration—Blocking of the Left Jab—are "Official United States Navy Pictures."

ball work take up part of the forty-five minute period.

The boxing program sponsored by the Sports Program is conducted from an interest standpoint. Here we have cadets who have selected boxing as the sport in which they are particularly interested. Competitors are divided into squadrons and each group has a coach. Competition between these groups is carried on so that each cadet has one bout a week. The training here is similar to the mass

(Continued on page 40)



Action—After all the drills comes the test inside the ropes; it's the proving ground and the challenge.

The Contribution That Soccer Makes to Naval Aviation

By E. C. Waters, Lieutenant, U. S. N. R.

Head Coach of Soccer, United States Navy Pre-Flight School, Chapel Hill
Formerly Coach of Soccer, Wrestling and Gymnastics
West Chester, Pennsylvania, State Teachers College

THE committee on soccer feels that the game has a definite place and purpose in the program for developing physical fitness of potential Navy fliers, for it effects the following objectives:

(1) *Agility, co-ordination, and balance* are secured through the unique feature of the game being played entirely with the feet and head, with the exception of the goalie, who is permitted to use his hands. In practically all other games the player handles his own weight by his legs and feet, while he handles the ball, bat, or racquet with his hands. In soccer the player must handle both his weight and the ball with his legs and feet. This means balancing on one foot and playing the ball with the other.

(2) *Endurance* is developed through the great amount of running demanded.

(3) *Timing, anticipation, speed, and quick thinking* are developed by general

play. Timing of one's kicks with the flight of the ball is very important. Anticipation of the opponents' play is basic to good defensive soccer, and anticipation of the moves of your own team mates plays an important part in perfecting team play. Speed is important in beating the other fellow to the ball and in breaking away on offensive play. Decisions must be made on the spur of the moment, which develops quick thinking.

(4) *The ability to take physical punishment* is developed through the bodily contact which is encouraged, and through the fact that the game goes on in the rain and mud, or in spite of any kind of weather.

(5) *Competitive spirit and perseverance* are both important objectives achieved through the will to win each game played.

(6) *Team play* is far from the least of the objectives achieved through soccer.

(7) *The international aspect* of soccer means that no matter where our men are billeted, they may talk on common ground with the natives of the country about this world-wide sport. It also means that our men in foreign lands will be able to secure competition which will lead to better spirit among the allied nations.

(8) If the cadet should be forced down in enemy territory and it is necessary for his own preservation to engage in hand-to-hand combat, the ability to kick fast and accurately with either foot would be priceless.

Changes from Intercollegiate Rules

To attain these objectives and purposes to a greater degree than could be done with the game as played under international rules, some changes have been made. These changes are aimed at speeding up the play, creating more threats



Two cadets pushing in an effort to get the ball. Pushing in this case is not a foul.



Blocking an opponent which is a foul.



Pushing from behind which is a foul.

to score, increasing the amount of goals scored, decreasing the amount of whistle blowing, and enabling more cadets to play. The important changes are: 1. No off-side rule. 2. No rule as to how the ball shall be thrown in from the side line. 3. Field 50 x 75 yards. 4. Time of game two—twelve minute periods. 5. Basketball shoes only may be worn. 6. Goal keeper is allowed to use his hands any place in the field of play. 7. Eight men on a side (4 forwards—3 backs—1 goal keeper). 8. Unlimited substitutions and re-substitutions. 9. All penalties are free kicks from the point where foul was made (no penalty-kicks). 10. Goal keeper may not be charged while in his area whether or not he has the ball.

General Method of Presentation

The lessons are planned so that periods of rest or periods of low output of energy are alternated with periods of hard work or high output of energy. This enables the cadet to regain some of his spent energy and thus be capable of learning throughout the period. Only the absolutely necessary fundamentals are presented, as our purpose is to get the cadet to playing the game rather than mastering technique, to have him learn enough skill so that he can enjoy playing the game, rather than have him become an expert player. Each item in the lesson has a time limit which is strictly adhered to, so that each item will be presented. Teaching is at high pressure with one coach to every ten cadets. The cadet is never allowed to pick the ball up in his hands. Cadets work in pairs with each pair having a ball.

In the first lesson, we cover the funda-

AS announced in the September issue, the theme of this year's ATHLETIC JOURNAL is the co-ordination of high school and college athletics with the hardening programs of the Army and Navy. A systematically arranged course, so to speak, has been given during the fall. The six-point basic conditioning program of the Army was presented by Colonel Theodore Bank, special service division. Calisthenics, Guerilla Exercises, Grass Drills, Running, Relay Races and Combative Contests were explained in detail. The objectives of the Navy Pre-Flight Program, presented by Ensign W. R. Reed, was followed by detailed descriptions of the various sports selected in the Navy Pre-Flight hardening program, Military Track—Lieutenant Sportsman; Basketball, Lieutenant Julie Bescos and Lieutenant (j.g.) James Decker; Swimming, Lieutenant W. F. Foster; Gymnastics and Tumbling, Lieutenants Charles J. Keeney and Hartley D. Price; sixty illustrated exercises by Lieutenant M. J. Gary. Boxing, Soccer and Wrestling, as described by Lieutenants Deeter, Waters, Speidel and Gardner (j.g.) in this issue are to be followed in February by Hand-to-Hand Combat and the Sports Program in its entirety. The men who have written these articles are former college coaches who are familiar with the coaching problems of our readers. No attempt has been made to emphasize the technique of sports since the purpose of the series of articles has been to show what the Army and Navy need in the way of conditioning. This publication, grateful to the writers of the various articles, and to the public relations officers who have co-operated so excellently in securing the head men of their staffs for the articles, is pleased to advise these men that the coach-readers have voiced their appreciation to the editor for the helpful suggestions in their co-ordinating programs.

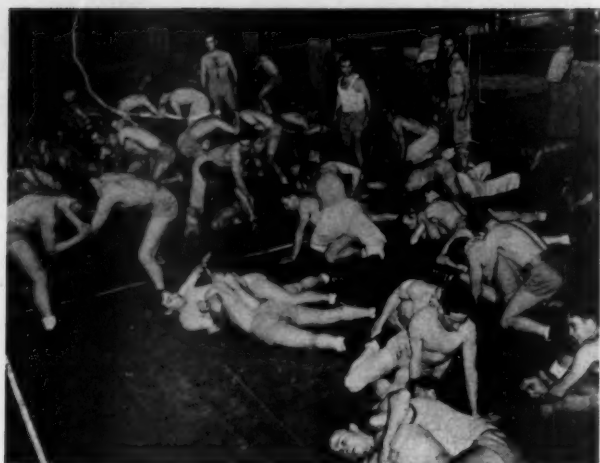
mentals of power-kicking, trapping a ground, bounding and fly ball, and the game of keep-away. While this game is going on, a few feints with the knees and feet and the proper method of passing a ball are presented. In the second lesson—dribbling with a weave run, heading, passing to a partner on the run and calling the plays, goal shooting with power kick, left and right foot. In the third lesson we present tackling and charging, give the cadets a blackboard talk on the game itself and rules, practice corner kicks and throw-ins, and send the line against the backs and goalie. In the fourth lesson we review all fundamentals, teach a kick-off play, have a walking scrimmage to correct team-position play, and then regular scrimmage. In the fifth lesson we discuss rules and let the cadets ask questions, then scrimmage. During the last five lessons we review fundamentals for a warm-up and present tricks, dodging, play of the goal tender, over-head and back-heel kicking.

The warm-up before each lesson consists of a ball control drill. This drill is trying to keep the ball in the air by playing it after each bounce, its primary function being to loosen the ankle and develop facility in handling the ball.

Comments

To encourage body contact, only deliberate and dirty play is called a foul. If cadets both push each other, fair enough, no foul; if two cadets want to bump each other to see who can hit the harder, fair enough, no foul; but if one pushes from behind or hits another from the back, that is not fair; it is a foul. The fouls that are most frequent are hands on the ball

(Continued on page 40)



Cadets practice the holds which have been demonstrated, coaches watch the wrestlers in action and make suggestions for improving the technique.

The Two-Fold Objective of Wrestling in Navy Pre-Flight Training

By Charles M. Speidel, Lieutenant, U. S. N. R.
Head Coach of Wrestling, United States Pre-Flight School, Chapel Hill, Formerly Assistant Professor of Physical Education, Penn State

And
Frank D. Gardner, Lieutenant (j.g.), U. S. N. R.
Formerly Director of Physical Education and Athletics
Bellmore, Long Island, High School

THERE are two major objectives that we hope to attain with our wrestling program. First, there is the development of a proper mental attitude toward combat, and second, the development of body-maneuverability and control to a high degree.

We have found that a large percentage of our cadets start their pre-flight training with very little experience in actual pressure competition. They have been trained in the past to play the game for the sake of sport, that is, purely from a recreational standpoint; never to take advantage of an opponent; not to take defeat too seriously, and to observe the rules of sportsmanship to the highest possible degree. These are excellent attributes in peacetime, but they will not help our fighting men whip the type of adversary that they are now facing. Our men must "play for keeps."

We are pounding into our cadets an intense desire to win. Giving their best is not enough; they must do better than their best. Obviously in any contest, someone must lose; however, when that time comes, we do not want them to like it or be too sporting about it. They must realize that in the game they will soon be playing, second place means death.

They must develop confidence in their ability to think and act rapidly when under competitive pressure. This demands a sincerity of purpose toward practice, since confidence comes with the ability to do things well. To achieve the top, you must believe in yourself.

We want our cadets willing and eager to carry on, regardless of fatigue, minor injury, unfavorable odds or any other handicap, that in civilian life might take them from competition. They must expect such discomforts in their daily life with the fleet, and be prepared to face and overcome them.

The technique of wrestling has a great

contribution to make toward the development of the cadet's body-maneuverability. The ability to work an opponent into a position, so that he can be taken from his feet, calls for a perfect combination of feinting, balance and timing; the knowledge of controlling an underneath opponent through rapid movement, weight dis-



Lieutenant Speidel demonstrates before the cadets the various holds.

tribution and shifting of position which necessitates a conservation of energy until a proper opening for attack has presented itself; the ability to out-manuever a top opponent into a reversal of position through deception, leverage and use of the opponent's own power, combine to produce a highly co-ordinated fighting man.

The majority of our cadets are fitting into the pattern of these objectives. By the time they have finished their pre-flight training at Chapel Hill, they may not be polished wrestlers, but they will

have developed a mental attitude that will not consider defeat. They want no quarter nor will they give any. They know the value of out-manuevering an opponent and most important of all, they believe in themselves. When they get in the air someone is going to catch "merry hell."

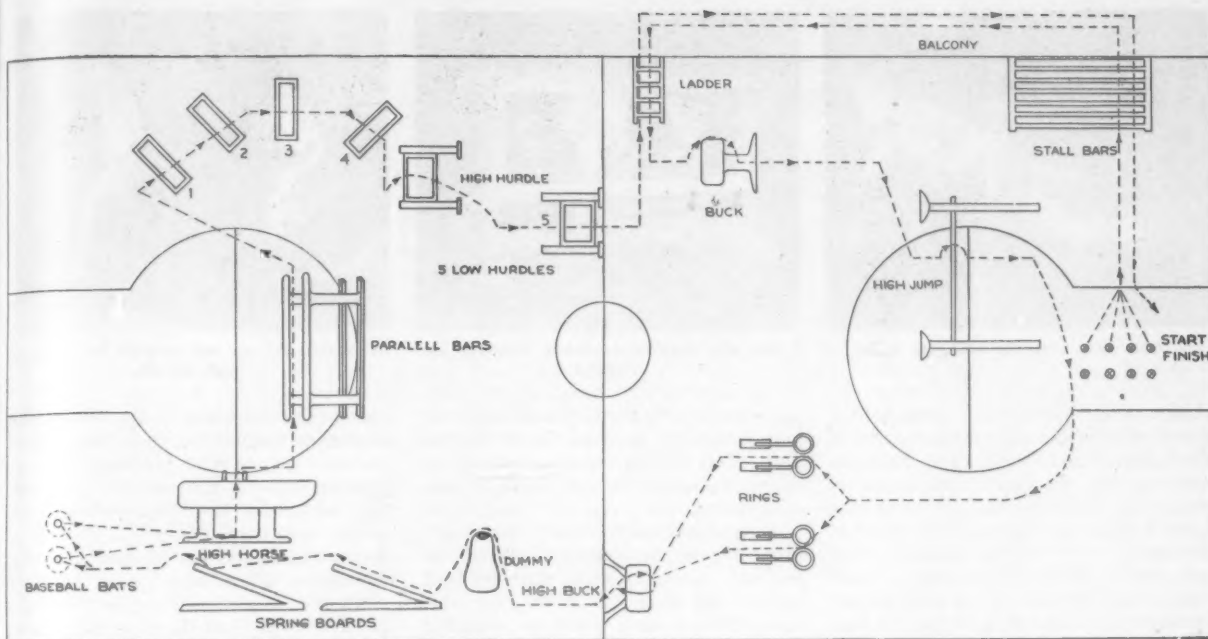
Wrestling in the High School Sports Program

Present conditions have brought us to realize the need for more vigorous types of competitive sport that will develop an intense desire to win. Unfortunately, the trend during the past decade has been on a basis of sport for sport's sake with definite de-emphasis being placed on the development of a winning spirit. This attitude of sports-program supervisors, coupled with their unwillingness to accept the possible criticism centered on any contact sport in which injury is possible, has not helped American youth solve its present wartime problems. As a consequence, many cadets coming to Chapel Hill for pre-flight training are ill-equipped to immediately fit into the picture and derive full benefit of this phase of their work.

In certain sections of the country, scholastic wrestling has been introduced and has enjoyed great popularity with both participants and spectators. Wrestling
(Continued on page 39)



Lieutenant Speidel referees a match.



An indoor obstacle course.

A New Use for Old Equipment

By E. R. Abramowski

Athletic Director, Erie, Pennsylvania, Technical High School

INSTRUCTORS of physical education are searching their stock rooms, for old equipment, and apparatus to put to a new use. Horses, bucks and bars once the popular apparatus in our gymnasias during the reign of the big-muscle era, are once more in demand. Rings, ropes and ladders, which gave way with the approach of the games-curricula are once again coming into their own, not as equipment on which to teach formal exercises, but as obstacles to be used in conditioning our youth, and training them in the military art of overcoming terrain and obstacles found on a field of combat.

Interest in physical education is high among our youth in those schools that have added commando training to their programs. The youth of America is eager to develop its physical prowess, co-ordination and mental alertness. They want to be fit. They are instinctively eager for competition, and take pride in their agility, daring and ability to overcome obstacles, and brush away minor bruises. It is an American characteristic, and American youth is eager to answer the challenge.

To meet the program of conditioning our youth for Uncle Sam's future soldiers, sailors and marines, many schools, which have adequate physical facilities, finances and spacious grounds, lost no time in building outdoor courses for military track or obstacle racing. These courses are patterned after the Army, and Navy pre-

flight courses used in our many training centers, and, therefore, represent the ideal.

Many urban schools, however, situated in the centers of the large, thickly populated cities, are cramped by big buildings and do not have the adequate outdoor physical surroundings, where facilities for military tracks can be developed or built. Nevertheless, this does not mean that these schools cannot add commando training to their curricula, and must deprive

their student body of the training our military men appraise as *essential* training for our future fighting men.

An old adage that is applicable in this instance might be quoted to be this, "When the mountain would not come to Mohammed, Mohammed went to the mountain." In short, perhaps the urban schools cannot obtain sufficient outdoor facilities to install a course for obstacle racing, but they can adapt, and many schools already have adapted, the obstacle course to their gymnasiums and are giving their boys training equal to the outdoor course.

The physical instructors who have shown ingenuity in laying out indoor courses, are the men who are carrying on the search for the heavy apparatus of the late Swedish system of formal gymnastics, and finding a new use for it in simulating obstacles, and terrain that will be encountered by troops in actual combat.

The accompanying drawings, and photos, show the lay-out and action of an urban school using obsolete equipment to supply the hurdles, obstacles and hazards to challenge, the stamina, daring poise, and agility of our high school boys.

The procedure for the obstacle course as illustrated above is as follows: Race to the stall bars, up the bars, over the rail to the balcony; race on the balcony to the ladder, over the rail, down the ladder hand-under-hand; over the buck



The stall bars are used as a ladder in wall-scaling.



A fence-vault over the old gym horse.



Using the hurdles to teach crawling and creeping.



A sawdust dummy and springboards simulate rough terrain.

(high), over 4-foot high jump to the rings; skin-the-cat on the rings, run to the buck; straddle-vault over the buck, crawl under the buck and straddle-vault the buck again; leap over the dummy onto the springboards, race to the bats. Go around the bat eight times and flank-vault over the horse; hand-walk on the parallel bars, crawl through openings in five hurdles, hurdle the high hurdle, duck under the low bar. Race up the ladder on all fours, to the balcony; race to the rail above the stall bars; crawl over the rail to the top rung of the stall bars; and drop to the ground; race over the finish line, where the team mate resumes the second leg of the relay.

To give the event further stimulus, and

make the routine more interesting for the lads a "laugh," is added to the obstacle race. This is done about midway in the course, and adds pleasure to the arduous competition.

A popular stunt to supply the "laugh" is to require the contestants to set one end of a baseball bat to their forehead, and set the other end on the floor, then using the bat as a pivot, go around it eight to ten times, enough to lose his sense of balance, and equilibrium. The effect upon the individual is comical, to say the least, and peals of healthy laughter never fail to emanate from his classmates, who witness his staggering attempts to overcome the effect produced.

The individual's ability to regain his

equilibrium and sense of direction is also invaluable training for those boys whose ambition it is to enter pre-flight training.

Three general methods of competing may be used: 1. Relays, pitting equal groups against each other. 2. Pitting individual against individual, and 3. Pitting individuals against time.

All of these methods bring out the competitive instincts of the boys, keep them at the peak of their performance, and add zest to the program.

Teaching our boys physical fitness, as well as, such skills as running, rolling, leaping, hurdling, relaxed falling, climbing and jumping, will prepare them for combat conditions, and will pay big dividends in lives saved.

Basketball Plus

By Joseph G. Daher

Basketball Coach, Manhattan College

THE game of basketball in its present development has become, in one sense, a science worthy of minute detailed study. Like any other science, to know it well one must have a thorough knowledge of the principle fundamentals; sweeping generalities will not do; vagueness of instruction is fatal.

In basketball, men must be trained to think properly and to act exactly in order that the proper play and the proper action take place at the opportune time. The essence of defensive basketball is sound balance, with emphasis on good footwork, correct vision, and proper use of the hands. The essence of offensive basketball is passing and shooting, coupled with the ability for perfected execution of details. Footwork and condition are to the defensive team what passing and shooting are to the offensive team. The team of five good passers will not be beaten badly. The deadly passer is a big asset to any team. No man should be on the team who cannot pass. Practically all passing is made from some angle; very seldom is a pass ever made to a player in a stationary position. The potential passer and

receiver must maneuver for good position to make a successful pass completion. The passer must not pass straight at the receiver, who will be gone when the ball gets there; the receiver's speed will have to be calculated and the pass must be made to a point ahead of him.

Passing and shooting must be performed with exact efficiency and effectiveness. No player, no matter how good he may be at some phase of the game, should be allowed to play regularly on the team unless he is a good passer and is willing to make a distinct effort to pass and co-ordinate in team-play. Passing is done in many different ways, depending upon the situation, the type of defensive player, and the type of play. Good passing is scientific and an art. Its effectiveness depends upon the power in the fingers, wrists and arms of the passer, his courage, accuracy in timing, and judgment of distance.

Each player on the team should make an honest effort to learn these two essentials of basketball. Apparently, a great number of boys take this phase of the game too lightly, but these actions are so important to the game and its success,

that practice must be *hard* and *often* in the development of *sound habits* of passing and shooting.

I have repeated many times the three attributes which mark a "winning combination" from a team that "just gets along." These attributes are: *morale*, *poise*, and the *will to win*.

Every player must put forth honest, determined effort in every play if his team is to be successful. The loafer who lets the other fellow do it when the play isn't aimed in his direction may be the immediate cause of the play's failure. The man he was assigned to guard probably came through and scored unhindered.

This business of training and conditioning deserves some emphasis. Basketball teams are not made in December, January and February. They are not the products of irregular efforts, no matter how vigorous such efforts may be. They are the product of long, steady training and preparation, clean and wholesome habits, plenty of exercise and recreation, and abstinence from those habits which weaken and soften the body, or weaken one's powers of self-control, determination

and self-restraint, or effect his pride in his strength, stamina, and general physical superiority.

A boy who has ambition to play college basketball has no business fooling with tobacco or alcoholic beverages of any

kind or description. But, a negative program is not enough, either. He needs to develop, to grow. He needs action and recreation. I don't know which is the worse, bad habits or inactivity. Either is enough to ruin the prospects of the most

able boy and, as a result, the team.

Besides the essentials of sound passing, shooting, and physical condition, we cannot overlook the boy's possession, or lack, of competitive spirit.

(Continued on page 40)

Using the Double Referee System

By Lyle Clarno

Basketball Official, Western Intercollegiate Conference

FOR the past three years the basketball officials in the Big Ten have been using the double referee system, with both men working to their right. We have found, by working this way, that one of the officials is always on the play and much closer to the play than they used to be, when the two men worked more between the two free-throw lanes. With the game speeded up as it has been in the past five years, and with the elimination of the center jump, it is practically impossible, for officials to work only between the two free-throw lanes. It is important to have one man under the basket.

In the double referee system on out-of-bounds play, one man has one side and one end to take care of, while the other takes the other side and end. In some territories the referee takes the free throw at his left, so that he will be out in the middle of the floor to be ahead of the play, and the umpire being under the basket, can follow the play down, and on the opposite free-throw lane, takes the free-throw lane

with the referee under the basket. We have adopted this system, with the exception that we let the referee take the ball at both free-throw lanes because he is facing the scorekeepers and timers and can keep his eyes on them for any substitutions before a free throw, but when the referee hands the ball to the free thrower at the free-throw lane to the right of the referee, he immediately goes under the basket and leaves the free-throw lane for the umpire to watch. It is very important that one of the two officials be opposite the free-throw lane, so as to tell whether the free thrower steps over or not. The umpire on the same side of the floor as the scorekeeper and timer will check on all foul numbers.

Illustration 1. The referee tosses the ball at center and, as soon as possible, without interfering with play, gets to the side line. The umpire is opposite the referee and a little to the right of the center line, so that he will not obstruct the view of the timer from the referee. The referee will watch for any illegal jumping by the centers and see that the ball is not tapped on the way up. The umpire watches the other eight men. Sometimes the umpire can catch a bad jump at center, but his main job is watching the other eight men. This holds true on any jump ball. Of course, when the umpire is tossing the ball up, the referee takes the responsibility of the umpire at the center jump.

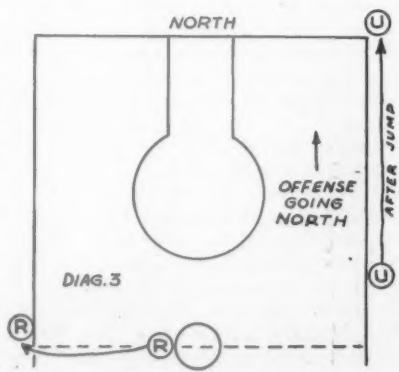
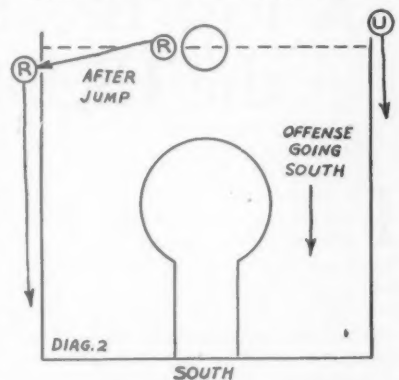
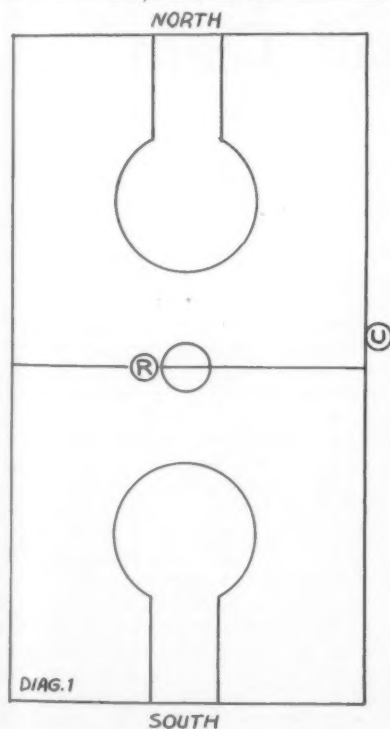
Illustration 2. In this illustration, the ball is tipped to the team going to the south goal or to the referee's right. The referee should, as soon as possible, go toward the goal to his right. How far he should go under, depends on how far under the offensive team comes. If the players start a drive toward the basket, he should be sure and get under the basket. The umpire will move some to his left, to be on the offensive team, and will move in, only when the ball is brought in close to the goal. He is always ready to go to his right on any fast interception. In this way we have one man out and one man under at all times.

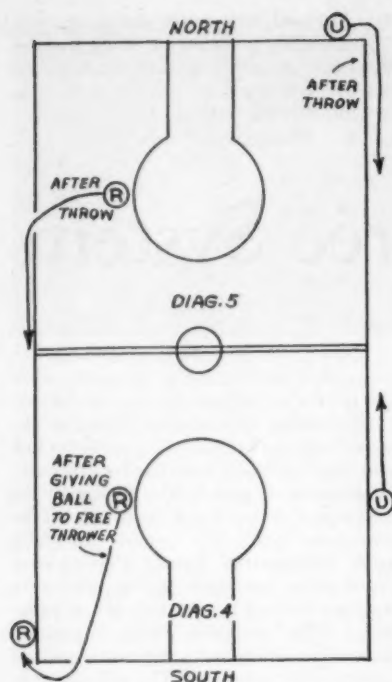
Illustration 3. This illustration is the same as Illustration 2, but the ball is tipped to the team going to the north goal and in this case, keeping in mind always to work to his right, the umpire will im-

mediately work ahead of the play, while the referee will follow the play of the ball.

Illustration 4. On free throws at the south end, the referee will handle the ball and after he hands it to the free thrower, he immediately goes to his right under the basket and the umpire is out even with the free-throw lane. The umpire can check as to whether the thrower stepped over the line or not, and also watch as to whether the ball hit the rim, net or backboard. The umpire is also in a position to start to his right, to the north goal, in case of a fast break. The referee is in position under the goal. The reason for letting the referee handle the ball at both free-throw lanes, as stated before, is that he is always facing the scorekeeper and timer and is in a better position to see a substitute coming in or any signal from the bench, before the free throw is placed on the line.

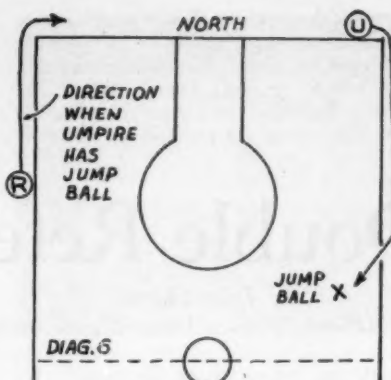
Illustration 5. The referee is on the





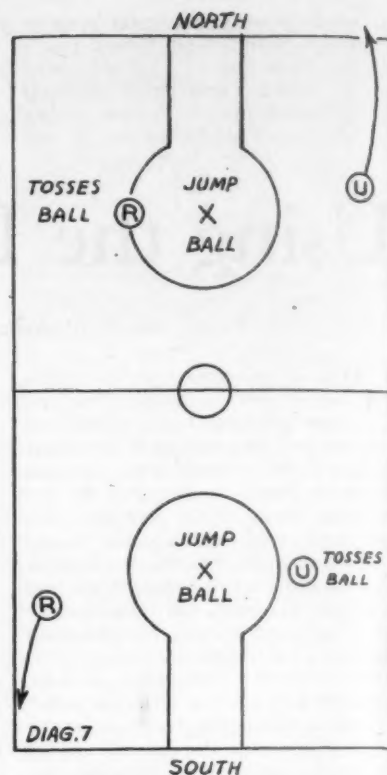
free-throw lane with the umpire under the basket.

Illustration 6. In some cases, as in Illustration 6, the jump ball occurs on the umpire's side, while he is going to his right and under the basket. This might be called



by either official, but the umpire comes out, to take the jump, and the referee will, in this case, go to his left to watch the end line and the play under the basket. If there are several passes made after the jump, the officials usually can watch and gradually get back to their proper positions, both working to their right.

Illustration 7. Jump ball at both free-throw lanes. In the jump ball at the free-throw lane to the right of the referee, the umpire usually takes the toss with the referee staying opposite the jump, until the ball has been tapped, and then he is in a position to go under the basket, if the ball is tapped in that direction, with the umpire staying out in a position to be ahead of the play, if a pass is intercepted and the players go for the other basket.



At the other end of the floor, the referee takes the toss, and the umpire stays out ready to go under.

A Fast Break Coaching Philosophy for the High-School Basketball Team

By Joseph W. Hartley
Coach, Waterman, Illinois, High School

IT is my opinion that in coaching high school boys the fast-break offense, they should be coached on only a few fast-break situations, and then limited in their game attempts at fast breaking to these definite situations only. High school boys can be taught to look for these few fast-break situations and to take advantage of them. If these few limited situations are off, then the team should slow up and bring the ball down for the set-offensive attack. The thing that makes it wise for a coach to do the above is that boys of high school age have poor field judgment, on fast-break situations. Their judgment, narrowed by inexperience, on when to fast break and when to set up is not always good. If not limited and taught certain fast-break situations, they have a tendency to try to keep fast-breaking when there is no fast-break situation, and when the team would really profit more by the set offensive. They will also fail to take advantage of many fast-break situations, so it is best to limit their fast

break to definite numbered situations, and when these situations do not occur, the team should be coached to bring on the next best, the set offensive.

These are some of the rules and situations that we use, to try to govern our fast break. When the ball is passed in to a player from out-of-bounds, he should advance the ball as far down the court as possible, either by a dribble or a safe, accurate pass. Too many boys slam the ball back and let the other fellow do the advancing. This same rule applies to a player anytime he secures the ball—advance it as far possible and as quickly as possible, safely. When opposition is met, reverse and look the field over for a safe pass. Always in the fast break, the offense is looking for the situation where the offensive men down the floor outnumber the defensive men. When the offense does not have this situation, and it is clear that it cannot be accomplished by a quick pass and a break for the basket, then bring on the set offensive. The rule we

use to guide the player as to whether he should pass or dribble, is, look first for a pass, and dribble afterward, only if there is no one to pass to, or if the player open for a pass would be in a less advantageous position for the fast break than the passer.

Our next rule to govern the fast break, is to pass the ball to the man who is most sure to receive it safely. Rather than take an element of risk with the fast break, use the set offensive. If the player has a choice of two players to whom he may pass, the rule is always, pass the ball to the surest receiver. Too many players of high school age want to score too soon and take too much risk to get the ball. Better than taking a risk, safely pass the ball, retaining its possession. But keep the ball moving if possible. The only time a player can ever be justified for holding the ball is when no one else is open for a safe pass, and the ball cannot be advanced by a dribble. The passing rule here applies to any offensive. Many boys, instead of

keeping the ball moving steadily, accurately, and safely, will hold the ball momentarily (or longer), looking for direct scoring opportunities, and after holding it, they are over-anxious and will often slam it, at great risk, to get a scoring opportunity. The result is many pass interceptions, because the defense was allowed to get set. The team should keep the ball moving accurately, and steadily and scoring opportunities will come; and they will come without any risk or chance for interceptions. Many players can see no reason to pass to another player, unless he is in scoring position, and consequently he feels that it is just as well to hold the ball, or advance it with a dribble, since the player open for a pass is not in scoring position. This is false, the percentage pay-off is higher with the pass, for if the player will keep the ball moving, he will add team finesse, giving the defense more to watch, with less chance and time to get set on the offense. Then too, unexpected opportunities to outnumber the defense down the floor quite often will develop from a quick pass, a break toward the basket, and a pass back. The players should all be impressed with the fact that the slowest possible way of bringing the ball down the floor is by the dribble.

The fast break does not necessarily

start with the player who has the ball. He merely becomes a feeder. The fast break must start with the other players, who must cut into open areas and to spots, where the man with the ball can feed them. It is a mistake for a player to stand, and watch the man with the ball, and think he is the only player who can fast-break. This will result in his being tied up, losing the ball, or having to reverse and pass back, when he meets opposition, the fast break being killed because his team mates let him down by not breaking for openings. The player who breaks to a spot, where the man with the ball or the rebounder can pass to him, really starts the fast break.

Most fast-break situations will come from rebounding on the defensive end of the floor. The rebounder should go up after the ball with a spread, then come down keeping the ball low and well protected. His first rule is to look for a pass-receiver. If he locates one, he should pass to him, and then drive for the offensive end of the floor looking for a possible pass back. If the rebounder cannot locate a pass receiver at his first glance, his next rule is to start a dribble toward the side line, to get out of the trouble-area around the defensive basket, and to look for possible pass-receivers all the while.

If there are no players open for a pass, then he should advance the ball, as far as possible, down the floor with a dribble, always remembering to be on the alert, to pass down the floor to the first open player. If he locates an open pass-receiver, he should let him have it, and drive down the floor for the return pass and a possible offensive-outnumbering-the-defense situation.

Many players will not drive, when the man with the ball is ahead of his team mates, thinking they cannot help him. This is wrong, because, when the lead man meets opposition, he can reverse and pass off to players driving by him, and this will, in many instances, gain for the offense the defensive-outnumbered-situation, desired.

One of the best situations, from which a team can fast-break is from jump balls in the back court when the team is absolutely sure they can control the tip. On the average, in a high school basketball game there will be twenty jump balls. We spend time on jump-ball situations and we consider every jump ball an opportunity for, first, possession, and next, a direct scoring opportunity. We "gun" hard for the ball on jump balls, and, once possession is gained in the back court, we drive

(Continued on page 39)

Baseball for War-Conditioning

By Howard G. Mundt

Baseball Coach, Carleton College, Northfield, Minnesota

IN THESE days of stress, strain and unpredictable future, the place of athletics in the war program has become important. There have been many arguments, pro and con, in regard to the value of different athletic activities in this war-time program. Although authorities disagree on the merits of various sports in relation to sound physical conditioning of men in service, we all have our opinions in regard to such matters. Some sports have been, so to speak, put more or less "on the shelf." Baseball especially has frequently been mentioned as an activity not necessary, other than for recreation purposes, to a conditioning program. I disagree with individuals making such statements. As far as actual running, such as in cross country, obstacle racing, etc. is concerned, baseball cannot be placed in the category of that type of conditioning activity.

There are other aspects of conditioning, however, which greatly and directly contribute to a war-time program. I do not say that baseball is the only sport producing these aspects, but that baseball, along with various other phases of the athletic program is a definite aid. A well-rounded sports program is the answer. No game or activity should be

slighted in the war effort. For the millions of men in service, each should, if possible, be able to participate in his favorite sport. None should be treated with indifference.

Baseball demands definite qualifications, which if developed to a high degree may result in the individual becoming proficient enough to "make the grade" in a professional league. Those who do not have professional qualifications, and never will, may develop to a greater degree certain aspects which are important to the war-time program.

What are those aspects which baseball can develop? Let us review briefly a few.

1. *Initiative*—We must agree that this quality is necessary in the war effort. Any game in which initiative is developed is bound to produce capable leaders.

2. *Thinking of the quick variety*—Making decisions on the spur of the moment makes for leadership.

3. *Co-ordination*—This trait is extremely important for battle service. Adjusting and harmonizing the body to various conditions is naturally a great asset in field service.

4. *Courage*—Staying "in there" while a burning fast ball or crackling curve ball comes hurtling through the air at your

body requires the type of courage needed. It develops the ability to encounter difficulties without fear.

5. *Poise*—When the going gets "tough," the individual with poise comes through.

6. *Speed in Running*—Changing direction while fielding ground and fly balls, speed in running bases, are all requisites of war conditioning.

7. *Alertness*—Being watchful and vigilant are important requisites of modern warfare.

8. *Confidence*—Being self reliant is vital in service.

9. *Precision*—Exactness in execution on the spur of the moment is necessary in war maneuvers.

In the pre-flight "Outline of Physical Fitness Programs for High Schools and Colleges" some of the more specific objectives are listed as follows:

1. To develop, through team play, quick thinking, speed of action, anticipation and timing.

2. Qualities of character should be fostered, such as courage, daring, confidence in self and poise under emotional strain.

Again I say, baseball is not the only sport which develops these qualities, but it will help. Let's not sell baseball short in the war-conditioning program.

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High School Basketball and Transportation

THE ruling has recently been made in certain states allowing athletic directors, coaches and officials to obtain gasoline rationing books. The ruling reads in part:

"A salaried coach or athletic director whose duties require him to be present at interscholastic athletic contests may obtain a B book for use with his passenger car to permit him to travel to the athletic fields or buildings where these contests will be held, if he can show no other adequate means of transportation are available.

"Persons who will officiate at athletic contests likewise are eligible to obtain B books to permit them to reach the athletic fields or buildings where the athletic contests will be held, if they can show no other means of transportation are available."

It is the understanding of high school men who have been working on this transportation problem that under the above ruling coaches, directors or officials would be permitted to take other players with them on athletic trips. This ought to be welcome news to the high school men whose basketball schedules would be seriously curtailed, possibly abandoned completely, if coaches, officials and athletes could not travel in motor vehicles.

We assume that this ruling will be extended to all high schools, but we are not officially advised to that effect.

Adventure and Daring Instead of Security

SOMETIME ago many people in our country were dreaming of an Utopia where in the words of Dean Inge, "Life would be made safe, easy and foolproof, where we would all be personally conducted through life, all the risks taken by someone else." Those were the days when security was held up to youth as the thing most to be desired.

Today, we are meeting hardships without a mur-

mur. The polls indicate that the people are, not only willing to give up everything in an effort to help win the war, but are insisting that their leaders take whatever steps are necessary, no matter what it costs the individual citizens, to win as soon as possible.

In other words, today we are no longer thinking of a life of ease. We rather are willing to make any sacrifice. We are emphasizing daring and sacrifice instead of security.

Mark Sullivan eight years ago said that human beings were divided into two classes. "There are those," he said, "who prefer individualism to collectivism, freedom to security, the open field and the competitive game to the promise of a soft life of regimentation." At the time Mr. Sullivan said these things there were a great many who preferred a sheltered life to the competitive game and collectivism to individualism. Today, this has changed and the American people, instead of asking for someone to guarantee them an easy way of life, are asking that they be told what more they can do by way of helping win the war.

We do not want to dwell on the past, because the present has enough for us to do, but it is well to recall that the coaches in those days of luxury and plenty did not ask their boys to take it easy on the football field, the basketball court or the cinder path. Rather, they taught their players to give everything in the contest, to spurn the temptation to quit, when tired, or to leave it to someone else to block for the ball-carrier. We can be glad that this is so, because today undoubtedly America is stronger than she would have been, if our interscholastic and intercollegiate games had been abandoned, let us say, ten or twenty years ago.

There are those who are now saying that a school cannot provide athletics, that is, interscholastic athletics for the superior lads and, at the same time, conduct intramural athletics for all. Some of those who are quoted as saying this are intelligent men and, consequently, we may conclude that they know the thing they are saying is not so.

Others are suggesting that formal calisthenics and simple group games are basic in the physical training program and our school and college sports are secondary and complementary to the so-called basic activities. They propose that the basic program, that is, the program which they call basic, be made compulsory and athletics be made voluntary. These men who are responsible for this attempt to keep American sports in the background know that the athletically inclined boys will come out for the school team, whether the work is required, and they know also that the lad who needs athletic training the most is usually the one who will not take the time or spend the effort required to participate in athletics. Would it not be the irony of fate if Germany gave up her regimented calisthenics as a basic program and substituted sports, hiking and outings (the fact is, this happened in Germany between the last war and this one), and we made our sports secondary and voluntary in our school physical fitness programs and the formal work, together with simple group games, basic and compulsory.

Nearly every American boy has at some time played football, or basketball or baseball, or some other game. It may be, he did not play regularly on a team, but the chances are he had some sport experience. This sport experience may not be extended into his army or navy experience, depending on the attitude of his officers, but this training that he has had will prove of some value to him while he is in the service.

Every boy, or most every boy, knows the names of our great athletes and sometime or other, he has wished he might be a champion himself. Not many, we are sure, have any deep desire to be able to do the calisthenic exercises perfectly. A father was heard to say the other day, that his boys were always asking him to buy them a football, but they had never asked him for a dumbbell.

Competition With and Without the Rules

WAR is competition that is carried on pretty much without established rules, or, at least, without observance of rules. The warring nations have not yet, so far as we know, resorted to the practice of gassing civilian populations. There may be a few other methods of destruction which are tabooed by civilized people, but we insist that in war there are very few rules regarding the way in which opponents may be killed.

Since this is true and since our boys who are going into the service must be taught to forget the sportsman's code, when they come to grips with the enemy, there have been some suggestions that rules and umpires be dispensed with in our games.

To illustrate, the men in the navy pre-flight schools, as well as men in the marine corps and the army, are taught hand-to-hand fighting. Whether these men ever have occasion to use the methods taught, they will undoubtedly feel a bit more self-reliant and sure of themselves than would have been the case had they never learned the various defensive and disabling tricks which they are taught.

The point we wanted to make, however, is this, hand-to-hand fighting stunts may and should be known and used by the men in the fighting forces when they meet the enemy at close range, but they have no place in the game of football.

Some may suggest that rules, codes of sportsmanship and referees should for the most part be shoved aside for the duration. This may be right so far as military training is concerned, but it cannot apply to school and college football. While football accentuates qualities very much needed in soldiering, and while our football men generally make good officers, yet football would not survive, if every man on defense in a scrimmage were permitted to slug his opponent. If this were permitted, the fights, that would inevitably ensue, might be interesting but this would not be football.

The games that were played between service teams and college teams this fall were played just as they would have been, were we not engaged in a war. It may be that the blocking and tackling were

a bit harder than formerly, but we confess we cannot see much of any difference between the kind of games played this year and the games played last fall. The emphasis on unnecessarily rough play has not come from the coaches and players, but from outsiders.

Hard football is good football but dirty football is not, necessarily hard football. The men who are at the head of the army, navy and marines are gentlemen. Gentlemen may fight with every weapon at hand in war, but in games, such as football, they scrupulously respect the rules. Let this be remembered when unthinking persons would have us believe that the army and navy want us to teach dirty football.

School and College Men in the Service

SELECTIVE service was adopted in this country with the idea that, as the name implies, men would be especially selected under the draft. In other words, the Army, the Navy and the Marine Corps need young men of certain ages, chiefly of the school and college age, to form the combat units. Older men and specialists are required for different services.

Under selective service, if the board rules that a boy is physically fit he should be inducted into the service unless he is needed for some special line of work, or because he has dependents or because there are other reasons why he should be deferred or held out of the service. In other words, it is not possible for the schools or colleges to hold back men that the draft boards feel should be inducted into the military or naval service.

This statement may seem entirely unnecessary because the workings of the draft boards are pretty well understood by all. There are, however, still people who insist that if boys, who for some reason or another are not in the service at the present time, play football or basketball, something is wrong. These people generally imply that the lads have been held out of the service to play on school or college teams. Anyone making such a suggestion reflects upon the integrity and efficiency of the draft boards.

The fact is that the boys, who in the school year of 1941-42 played on the school and college teams have, for the most part, by now gone into the armed services or into defense work. The lads who played football last fall and who will be competing in winter and spring sports this school year will very largely be in the service a year from now. If the war lasts, the boys who are left in 1943 and '44 will likewise get some chance to condition themselves by participating in vigorous sports, so that they likewise can follow their older companions in this global war.

If anyone who has taken time to study the operations of selective service and to realize that the boys who this school year have played team games were boys who had not been called to the colors or who, for some reason or other had been exempted, still thinks that such lads should not spend any time

in playing football or basketball, then that is another thing. For our part, we cannot understand why anyone would object if our lads who are fighting this war and who are going to have to fight it get in condition by playing games.

It seems almost a waste of time to discuss this matter and yet there are people who are still writing editorials suggesting that boys of this age be not permitted to play games such as football and basketball and the other games commonly found on the school and college program.

Games for Normal Living

THE period following the last war was referred to by Stuart Sherman as, "The age of stadium building." What will characterize the period following this war? This is a matter that should concern all of us. Certain lessons are the inevitable result of our war effort. These lessons should be tabulated and studied. Certainly they should not be laid aside and forgotten when the war ends.

While it is true that we have been thinking of our athletic programs in terms of preparation for war, yet normally we think of our games as a preparation for normal living in times of peace. Fortunately the benefits that accrue to a boy who participates in team games help him both for normal living, and also, when and if, he joins the armed forces.

Certain questions perhaps will be answered by some of our men who are now in the service. Such questions, for instance, as the following:

How long does it take an average recruit to be conditioned for jungle fighting in Guadalcanal or desert fighting in Africa?

What is the shortest method of conditioning men for modern warfare?

Were the men who attended high schools and then entered the armed forces better qualified physically, and otherwise, for military service than the men who had never been graduated from the secondary schools?

Did our athletes as a class render better and more efficient service as soldiers, sailors or marines than those who had never engaged in any kind of sports activities?

These and countless other questions should be answered.

The Athletic Institute

AT THE time of the other war, the government asked the sporting goods directors to organize and pool their interests and requirements. At the time of the other war the men of the sporting goods industry sold the Army athletic goods, the best quality, sometimes at a loss, and other times at a very small profit. When the idea of American Legion baseball was suggested back in 1924 and '25, the Legion adopted the plan but did not appropriate any money. The leaders of the sporting goods industry who compose the organization referred to above put up approximately \$10,000 to cover expenses of launching Legion baseball for the first

three years. Something like a quarter of a million boys under seventeen years of age have played baseball under Legion sponsorship and direction every year since that time.

About 1929 or 1930 the Chamber of Commerce of Sporting Goods Manufacturers set up what they called "The Athletic Institute," with the idea that this institute would help in the promotion of recreation and sports in the country. The directors of the institute, in addition to some of the manufacturers, are Fielding Yost, Frank McCormick, C. E. Forsythe, Homer Chaillaux, and Glenn Morris.

The institute has recently voted to assist the Industrial Recreation Association to the extent of \$12,000. The money is to be spent in employing an executive secretary and in helping to get this movement started in the factories. Already seventy-five plants or organization are members of the Industrial Recreation Association.

For the last two years the institute has been financing and showing a motion picture called, "Make the Most of Playtime." The institute owns twenty-six films and these films are on the road almost constantly. Homer Chaillaux estimates that the Legion alone has shown the picture to at least two million people.

A Message from the Commandant at Corpus Christi

THE reasons for athletic teams representing the Naval Air Training Center are in line with the true traditions of the Navy.

Athletic teams are the logical result of the vigorous physical fitness program participated in by all Navy personnel aboard. As long as free people subscribe to open competition, team play, team spirit, and a fostering of the Will to Win, athletic teams will result. For the qualities which make champions on the field of sport, are also needed for our victory in the greater battles to come.

Team work is the Order of the Day, every day, in the Navy. Individual feats of valor are important only when they contribute to the general cause. Sportsmen point out this last year that teams which won championships, often failed to place single man on All-American teams. There is a moral in that thought. Victory comes to those who work together. And such is true war.

Representative athletic teams are also a potent factor in helping maintain the high morale of all hands. The teams belong solely to the bluejackets, and play competitively for their advantages of keeping physically fit and ready for action.

Another purpose of our athletic teams is to contribute funds to Navy Relief. As you know, the Navy Relief Society was established to help the Navy take care of its own. And today when the need is greater than ever before, the athletic teams can be of genuine assistance. There is no more deserving organization than Navy Relief Society in the Navy today.

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Approaches to the Problems of Physical Education in the Small Schools for War and Post-War Periods

By *Randolph W. Webster, Ph.D.*

Director Men's Service Program
School Physical Education and Athletics West Virginia University

THE problem of teaching physical education in the small schools is not a recent one; it has been ever present throughout the history of the teaching profession. It is one which cannot be solved within the confines of this paper. The only hope of the writer is that the few suggestions made here may point the way and aid teachers in building approaches for the final solution. This problem is not limited to the teaching of physical education alone, it is similar to the difficulties encountered in the teaching of other academic subjects in the small elementary and secondary schools. Since physical education is one phase of general education and has problems similar to those of other school subjects, a few historical and statistical facts relative to the small schools should prove expedient in analyzing this topic.

School officials, for sometime, have been cognizant of the problem of the small schools, but it has been only in recent years that they have taken definite steps in attempting to eliminate some of the inefficiencies in this field. More recently in the preparation of our country for war, facts have been revealed which point to some of the shortcomings of our school systems in general, but more particularly to the small schools, and emphasize the need for improvement in the curriculum and in instruction. The important part which the small schools play in the lives of the American people is shown by the fact that a little more than fifty per cent of children of school age live in communities less than 2,500 population and that more than fifty-five per cent of the teachers are employed in these schools.⁶ Nearly seventy per cent of our high schools have enrollments of 150 pupils or less and are located in the rural communities or small villages.⁵ Further evidence on the importance of the problem and the size of small high schools is given by Hughes who says that schools with enrollments of 100 or 150 pupils are usually considered small but in some instances enrollments may drop down to as

low as 30 or 50 pupils.¹⁰ Leading educators have selected 250 to 300 pupils as the minimum and 300 to 500 pupils as the optimum size school from the standpoint of providing an adequate program at reasonable costs.⁸ Teacher training institutions have neglected in the past to consider the importance of the problems in the small schools and have failed to adequately prepare their students to meet these situations. Many institutions today are still continuing to prepare teachers for the larger schools and offering little or no training for solving the problems with which over fifty per cent of the teachers will be faced.

Problems Confronting the Small School

The physical education problems facing the small schools are many and varied; both external and internal. Classified under the external problems are those concerning the location and structure of the school plant, equipment and facilities, and playgrounds. The internal problems are those related to the selection of competent teachers, adjusting teaching assignments, and the preparation of an adequate program.

The External Problems

The wise location of the school building is obviously an important matter in the establishment of an adequate school system. There are many factors which need to be considered from the standpoint of the welfare of the whole school, such as health, safety, proximity of the majority of pupils to the school, and provision for suitable playgrounds. Any one of these factors is just as important as another. School boards will do well to keep these in mind, when selecting a site for schools, and not be influenced by cheapness of land somewhere else, or by some friend who is anxious to make a profit on his real estate. Designing the building for multiple use of rooms will greatly increase the usefulness of the plant. This is

particularly true in the case of the combination auditorium-gymnasium. This is on the assumption, of course, that it is better to have a combination room than none at all. It is indeed more satisfactory, if the school budget is ample enough, to have a separate auditorium and gymnasium. The program of physical education cannot be improved or become very extensive unless there is provided an adequate gymnasium.

A gymnasium alone is not sufficient, there must also be sufficient and proper play equipment. Very few small schools have gymnasiums. Those which do, have little or no equipment. Many times there are just four barren walls with possibly a basketball goal at either end. Schools which are confronted with the problem of obtaining sufficient equipment with a meagre amount of available money may find a solution to their problem by seeking the aid of the manual training department of the school or by soliciting the help of the children's fathers in making homemade equipment such as jungle gyms, swings, and teeter-totters.^{11, 12} This is one of the advantages of the small schools; the communities are small enough to enable teachers to become well-acquainted with the children and the parents, and all are interested and willing to co-operate for the welfare of the school. Money raising events such as plays, festivals, and carnivals are sometimes helpful in supplying money for needed equipment. Schools which have little equipment and small chance of obtaining more would do well to organize their program around activities which require little or no apparatus.^{13, 20}

Another problem of the physical plant is that of providing adequate playfields, diamonds, and courts. A complete program of physical education cannot be attained unless there is provision for activities outside as well as inside. The solution of this problem also depends on the wise selection of a school site around which is suitable and sufficient land for the construction of adequate playgrounds.

Four acres is considered the minimum size playground for the elementary and six to ten acres for the junior or senior high school.¹⁴

Properly constructing, draining and hard surfacing the playfields will add to the length of service and usefulness of the play areas. Every foot of space can be utilized to the best advantage possible in providing courts, diamonds, track facilities, apparatus, swings, and sand boxes if the play areas are well planned from the beginning.^{3, 12}

The Internal Problems

The solution of the internal problems is dependent directly upon how well the external ones have been solved. It is obvious that without the proper school plant, play facilities, equipment and play areas being provided, even the most competent teachers working with the best planned program available could scarcely be expected to accomplish satisfactory results. If it is taken for granted then that the school plant with the accompanying play facilities, equipment, and playfields are at least reasonably well provided, the internal problems of securing competent teachers, adjusting class assignments, and planning acceptable programs can be attacked.

Obtaining well-trained teachers for the small schools, and holding them there, is a difficult task. The lower standards and the fewer conveniences of modern living in the small communities as compared with those found in the cities, the small amount of equipment and supplies, and lower salaries are some of the reasons why the better trained teachers are not found in these schools. The question may not be that of adequately trained teachers, it may be the problem of too few teachers in physical education. Many well-meaning school officials, as indicated by prevalent practices, seem to assume that a physical education teacher can handle a large number of pupils in one class. High calibre instruction cannot be given or good results obtained comparable to other academic subjects as long as overcrowding of classes is permitted. Solution to this cannot be found in the freeing of physical education teachers from the responsibilities of other subjects to teach more classes in physical education. This is particularly true in the elementary schools. The solution of this problem is rather one of training more physical education teachers and requiring more teachers of other academic subjects to be adequately prepared in physical education just the same as physical education teachers are required to be sufficiently well-trained to teach academic subjects. The assignment of teachers to remain in schools as a military duty by the Selective Service would help to prevent the drain of teachers from the profession. The payment of

salaries comparable to other public servants would help, also, to hold those now in teaching positions and perhaps help to bring back to the profession some of those who have already left for more lucrative positions.

With the preceding discussion on both external and internal problems serving as a background the problem of building a program of activities for the small schools is more easily approached. It must be borne in mind that whatever program is suggested must necessarily be a general one. No one program can be constructed which will meet all conditions in every school, but it may be modified to meet specific situations in any school. Some of the following situations should be considered before an adequate program can be built. 1. Schools with both small gymnasiums and playfields; with or without equipment. 2. Schools with only gymnasiums or playfields. 3. Schools with neither gymnasiums or playfields. Other things to consider would be the age of pupils, the size of enrollment, and level of instruction, elementary or secondary, and the needs and interests of the pupils. Finally, under the present emergency, the program needs to be streamlined to meet the immediate physical and mental demands of the war effort. This does not necessarily mean that all programs which have been in effect should be discarded and new ones built. In most cases it will probably be sufficient to continue with the usual programs but to see that they are executed a great deal better; to see that they are enlarged, improved and intensified. In many instances it will be necessary to place more emphasis on some parts of the program than others and to substitute some activities for others which will more quickly develop strength, agility, speed, and endurance. More emphasis now should be placed upon the fundamental activities of running, jumping, climbing, and throwing, particularly in the elementary grades; and in the high schools more attention should be centered especially around boxing, wrestling, swimming, and tumbling, with of course continuing participation in the fundamental activities. These are activities which should be emphasized during peace time as well as in the war period.

Space is too limited here to give a program in detail but perhaps the following suggestions may be helpful. It is very probable that schools will be supplied very shortly with a complete program of physical education designed especially for the war emergency by the United States Office of Education.* Other programs may be secured from The Bureau of Aeronautics, Division of Aviation Training, Washington, D. C. Literature at the close of this article will give helpful material in planning programs.

* This program has been distributed recently.

Suggested Program of Activities for the Small High Schools

1. Marching—5 minutes: for class organization, learning to respond quickly to commands, posture, etc.

2. Calisthenics—8-10 minutes: for posture, rhythm, endurance, warming up, etc.

3. Individual and mass athletics; or games, contests and relays—15-20 minutes; for knowledge of rules, agility, fundamental skills; or

4. Sports instruction and participation—15-20 minutes; for speed, strength, skill, endurance, and knowledge of rules, combative and competitive spirit. Sports: soccer, speedball, touch football, six-man football, volleyball, three-or-five-man basketball, boxing, wrestling, gymnastics, tumbling, track and field events, and softball.

5. Military track or obstacle races—5-7 minutes; for all-round ability in handling the body in unusual situations.

In schools where it is impossible to play many of the team games listed under item 4 above because of lack of space, it may be found that lead-up games of these sports or a modification of them may answer the problem. Examples of these in the various sports are:

Baseball

Modifications

Softball.¹⁷

Rollum.⁹

Lead-up games

Baseball target throw.

Catchers throw for accuracy.

Pepper.

Bunt and run.

Fungo hit.

Running bases against time.

Basketball

Modifications

Three-man basketball—both teams using same basket with dribbling permitted.

Five-man basketball—Same as above but with dribbling eliminated.

Five-man basketball—with alternating teams.

Two teams play until basket is made then new team challenges winner, etc., with any number of teams.

Lead-up games

Five ahead.

Relays—overhead, straddle pass, dribble and shoot, and handicap.

Twenty-one.

Foul shooting.

Zone shooting.

Football

Modifications

Touch football.⁷

Six-man football.⁴

In these games four teams may play on one field (two teams using one-half) if the kick is eliminated and the offensive team when held for downs

(Continued on page 38)

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Why Keep a Program of Sports

By DeWitt Portal

Assistant Professor of Physical Education, San Jose State College

THIS war will be won by the strongest power. Our country has an abundance of natural resources, but we can't use an oil well to bomb a city. The value of resources is dependent upon man power. The men and women are the agent that can convert resources into the necessary tools of warfare.

The effectiveness of man power is dependent upon leadership. Our civilization has been geared to peace-time activities and a life of ease. Now we are faced with a contest in legalized murder. The score cannot be a tie; the decision cannot be a draw. We must kill our opponents, or we shall be killed.

Developing a war machine has much in common with the creation of a football team. Our country is now like a large high school that is about to produce a football team for the first time. The only available competition is several small colleges who have outstanding teams and who have been playing the game for a long time. We must compete under the elastic rules as devised by the colleges. To be

successful, we must first secure the best available leadership. We must round up and organize all of our man power. We must master the fundamental skills, and most important of all, we must condition our athletes. Some of our leaders should make scouting reports of our opponents. It is vital that we do not underrate the foe, as wishful thinking would easily bring defeat.

The first responsibility of our leadership would be to build a defense for our adversaries' strongest threats. Next, we should produce an offense that cannot and will not be stopped. When the day of reckoning arrives, victory or defeat will depend primarily upon the team, its physical condition, the morale of the players, and their maneuvers and strategy. The influence of the rooting section will be of secondary importance. When that day arrives, we will not be interested in a moral victory; we will want to win decisively.

It is an accepted fact that as a successful football team must have good players,

so must a successful army have good fighters. To consider the qualities we look for in a soldier, it seems logical to compare the German program of physical training with the American school curriculum of physical education.

The German program adheres to formalized drill. The American training advocates free play. It is granted that strong bodies and big muscles can be developed through formalized calisthenics, by long marches and drills and by weight lifting. Group discipline and response to the spoken word are also a vital part of this German program. American educators know that a hard working ditch digger will develop a strong body, too. The German educators have overlooked a most important opportunity, intentionally perhaps.

American educators know that athletic activities and games will produce excellent bodies. It is our contention that agility and co-ordination are developed to a keener degree through sports than through stereotyped drill. The ability to

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lead others and to follow others, the subordination of the individual to the group, (teamwork), self-sacrifice (diet and training) courage and determination, and ability to give and take, individual and group morale, the knack of winning gracefully and losing generously, and many other such by-products are the characteristics that make Americans what they are. The values gained and skills learned in athletic competition carry over into later life. Such dividends are lasting and increase in value with the years.

Results of physical examinations given to American inductees show quite definitely that our school program of physical education has not been one hundred per cent effective. We have spent too much time and attention with the superior athlete, and we have neglected the weakling. If athletics are good for one boy, they are good for every boy. We must strengthen our intramural and interscholastic programs.

It is high time that school authorities recognize the real challenge to their physical education departments. This is not a time to eliminate sports and de-emphasize their physical education programs. Educators should rebuild and enlarge their sports programs.

The Annual Convention of the American Association of Health, Physical Education and Recreation

PLANS are now in the making for the annual convention of the American Association of Health, Physical Education, and Recreation to be held in Cincinnati, April 13-16, 1943. Dr. J. B. Nash, President, met with the national convention committee on October 1 and 2, selected the Hotel Gibson as headquarters, and laid the framework for the conference in April which promises to be highly significant and of great value to all members of the profession.

All America is now geared to one purpose—win the war. This means work—hard, long hours. It means sacrifice of accustomed comfort. Professional leaders and teachers of health, physical education, and recreation have much to contribute toward winning the war. Our relation to the war effort will occupy an important place on the convention program.

"Victory through Fitness" interpreted to mean strength of mind, strength of body, and strength of spirit, will be the convention theme. High representatives of the armed forces, of the educational field, and from the diplomatic service will be in Cincinnati to give us first hand information on developments and to make suggestions for future planning.



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Testing for Physical Fitness in High School

By W. R. Weatherbe

Head Physical Education Department, Petaluma, California, High School

ONCE again war has brought a new wave of testing for physical fitness. Many tests have been devised. The various army and navy camps and pre-training schools have, after much experimenting, developed tests to satisfy their needs. Typical of this experimenting is the way in which the army physical fitness test was developed. When the army needed a special consultant to devise a test for physical fitness, Lieutenant Colonel Ted Bank called upon Dr. A. A. Esslinger, Director of Physical Education at Stanford University. Dr. Esslinger gave all the known physical fitness efficiency tests to six thousand ground troops and paratroopers at Fort Knox, Kentucky. After the results had been tabulated, ten were chosen for future army physical fitness testing.

On returning to Stanford University, Dr. Esslinger, who is always cognizant of the physical educator's problems, devised a testing program consisting of eight tests for the high school. This further revision of the army's tests was necessary, because of inadequacies in high school facilities due, to lack of equipment, scarcity of space and under-staffed physical education departments.

The eight tests selected by Dr. Esslinger measure the qualities of physical fitness which should be promoted by the physical education program. They are strength, endurance, agility and neuro-muscular co-ordination. After the results of the test have been tabulated, a definite physical education program can be organized to correct and strengthen the physical weaknesses of the students.

The following battery of tests is simple, valid, reliable and easily administered.*

Strength:

1. Chins. (Arm and shoulder girdle strength)
2. Push-ups. (Arm and shoulder girdle strength)
3. Broad jump. (Leg strength)
4. Sit-ups. (Abdominal strength)

Agility:

5. Burpee. (20 seconds)

Co-ordination.

6. Bar Vault.

Endurance:

7. 220-Yard Run.

Power:

8. Shot Put. (12 pounds)

* Dr. A. A. Esslinger, *A Physical Fitness Testing Program*. (Monograph, Stanford University, School of Health, 1942)

I used all of these tests in my testing program except number six. Lack of facilities necessitated the omission. The broad jump and Burpee also measure co-ordination very well.

A short description of each test follows:

Chinning: Palms facing the bar, one chin is recorded every time the weight of the body is pulled up and the chin is above the bar. No leg jerk is allowed.

Standing broad jump: Both feet on the starting line. Must land on both feet.

Burpee: Start in the standing position. Place hands in the vicinity of the feet. The legs should then be extended straight backward. Then return to the squatting position after which the erect position is assumed again. This complete movement should be made as many times as possible in twenty seconds.

Shot Put: A twelve-pound shot is used and is thrown from a standing position. A right-handed individual places his left foot on the starting line and holds the ball in the palm of his right hand. The contestant may leave his feet and reverse himself when he throws.

Push-ups: This should be executed from a front leaning rest position. One dip is scored each time the performer lowers his chest to the floor and pushes back to the original position. Only the chest should touch the floor and the body should be kept straight at all times.

220-Yard Run: It is best to have the contestant run seven-eighths of full speed for the first half of the distance. Run faster the last half if he can.

Sit-ups: The contestant lies on his back with his hands clasped behind his neck. His body should be straight and his feet should be two feet apart. As some one holds his ankles, he sits up and touches his right elbow to his left knee and vice versa.

The following is a list of suggested standards at which even high school boys should aim: *

	Ave. Fit Man	Commandos
Chinning	10	16
Broad Jump	7'6"	8'6"
Burpee	10	13
Shot Put	25'	35'
Push-ups	25	40
220-Yard Run	30 sec.	25 sec.
Sit-ups	50	100

A brief description of the contestants may help in a final evaluation of their efforts. The boys who comprise the student body of Petaluma High School are, on the whole, typical high school students. A large part of these live on nearby ranches where they work before and after school. Many of the boys living in town have jobs of one sort or another. In other words, these boys are physically active much of their out-of-school hours.

The facilities for each test also have an effect upon the outcome. For the chinning, we have three bars, seven feet high. The shot put and broad jump were measured from the same starting line on a flat plot of ground. The Burpee, push-ups and sit-ups were done on the gymnasium floor. The football field was used for the 220-yard run, with the students running 110 yards up and back. This is not recommended, but it is all that could be done under the circumstances.

One more important fact must be added to complete the picture of our testing program. The seven tests employed were given to all six physical education classes in five days. Each class has about thirty minutes of participation time per period. The remaining twenty minutes are used for dressing and showers before and after class. The location of our gymnasium, a block from the high school building, accounts for some of the time consumed. Finally, the tests were given and judged by the author alone.

The results of the tests can now be presented.

TABLE I. Height, weight, age and test results are given for each contestant.

TABLE I

CASE	Age	Height	Weight	Chins	Broad Jump	Burpee	Shot Put	Push-Ups	220-Yd. Run	Sit-Ups
1	15	5-9	154	2	5½	6	20	5	35	47
2	18	5-8	160			6		14	34	52
3	16	5-7	135	10	5½		22	17		
4	14	5-4	108	0	5¼	16½	17	4		
5	17	5-3	148		5¼		28	25	30	70
6	17	6-1	153	3	6	6¼	21	8	31	47
7	15	5-0	134				13	8	39	33
8	16	5-11	150	4	5¾	5¾	25	9		30
9	16	5-9	130		5¼	5	20	6	36	44
10	16	6-1	160	5	6¼	7	24	18	32	42

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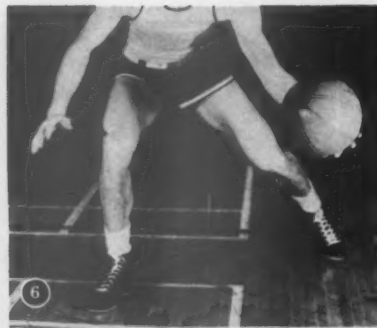
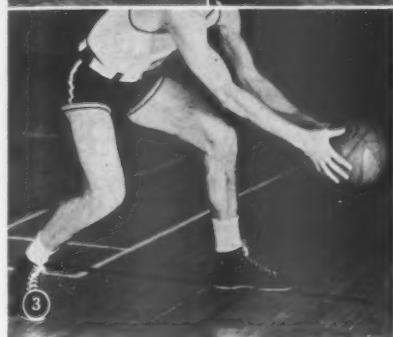
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The fake and steps must be done very quickly.

Illustration 3—This is the same action as shown in Illustration 1, except, in this picture, the player has dropped his right foot back and is attempting to gain position on the defensive man, so that he can dribble in for a left-handed shot.

Illustration 4—The completed pivot and the start of the dribble. Again note that the ball is protected by the body. These four pictures show footwork of the offensive player going either to his right or left. All action must be very fast.

Illustration 5—The first step of the fake and dribble. The player is attempting to go by on the left side of the defensive player. After faking a shot or pass to pull the defensive player out of position, the long cross-over step is used as indicated in this picture. Again this action must be fast. This step is used to get position on the guard.

Illustration 6—The same as Illustration 5, except the player is to go around the guard's right side. Therefore, the long cross-over step with the right foot and the start of the dribble with the left hand. The long cross-over step is used to get position on a defensive man.

Illustration 7—Meeting a pass breaking out from the left corner. The pass has been

made to the protected area, near the side line—the left foot is forward to protect the ball. The player has not only protected the ball with his body, but is also in good position to pass and cut or fake and dribble.

Illustration 8—This shows a player coming out of the right corner to meet a pass. In this case, the right foot is forward and the ball is again passed to the protected area near the side line. In both Illustrations 7 and 8 the player not only has protected the ball by this footwork, but is in good position to pass or fake and dribble.

Illustration 1 shows footwork on the pivot line. The player is faking the ball to a teammate and, at the same time, dropping the left foot back as indicated. This action gives the offensive man position on the defensive man, especially if the defense is a shifting man-for-man.

Illustration 2 shows the second step. The player has now completed the pivot and is starting to dribble in for a right-handed shot. The ball is protected by the body which is very important in every situation of this kind.

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The fourth of a series of illustrated short talks on Footwork in the various sports. The illustrations and captions are prepared by specialists.

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TABLE II
PHYSICAL FITNESS TEST SUMMARY

	Number of Chins	Number of Pupils	Average	Number of Feet	Number of Pupils	Average	Number of Burpees	Number of Pupils	Average	Number of Feet	Number of Pupils	Average	Number of Pushups	Number of Pupils	Average	Number of Seconds	Number of Pupils	Average	Number of Situps	Number of Pupils	Average
	CHINNING			BROAD JUMP			BURPEE (20 SEC.)			SHOT-PUT			PUSH-UPS			220-YARD RUN			SIT-UPS		
1st Period	118	23	5.1	135½	23	5.8	146	23	6.34	702	31	22.64	438	32	13.68	961	29	33.14	1213	27	44.92
2nd Period	140	21	6.6	128	21	6.09	145	20	7.25	493	21	23.47	315	19	16.57	510	15	34.6	806	17	47.29
3rd Period	220	36	6.1	211	35	6.02	216½	30	7.21	629½	27	23.31	568	32	17.75	924	31	29.8	1543	34	45.38
4th Period	156	25	6.2	159½	26	6.12	191	29	6.58	642½	26	24.71	514	30	17.13	890	27	32.95	1256	28	44.85
5th Period	91	12	7.5	77	12	6.41	97¾	21	4.65	282	11	25.63	335	18	18.61	600	19	31.57	905	21	43.09
6th Period	224	27	8.3	184	28	6.58	196½	29	6.77	781	30	26.03	487	24	20.29	895	21	28.33	1276	27	47.25
Totals	949	153	6.20	894¾	145	6.17	992¾	152	6.53	3530	146	24.17	2657	152	17.48	4489	142	31.57	6999	148	47.28

Space permits the printing of only ten instead of the 180 boys tested. The lack of results in certain cases is due to student absence during the five-day test period. Enough of these tests are given to show that they must be recorded carefully and that they give the instructor a good idea of each boy's ability.

TABLE II. Totals for each period, and the grand totals for each test, are given.

TABLE III. This table shows the spread of the results: the low point, the average

TABLE III
SPREAD RESULTS

RANGE	Chin-ning	Broad Jump	Bur-pee	Shot Put	Push-Ups	220-Yard Run	Sit-Ups
High.....	17.00	8.00	10.75	37.50	40.00	41:00	136.00
Average.....	6.20	6.17	6.53	24.17	17.48	31:57	47.28
Low.....	0.00	4.75	0.00	13.00	3.00	26:00	7.00

or mean point and the high point for each event.

Results of the weaknesses of each student, as revealed by his test, are now be-

ing worked upon. Retesting for individual events occurs at short intervals. The whole physical fitness test will be given again both in January and in May of 1943.

Athletic Clinics and the Learning Process

By C. C. Cowell

Associate Professor of Health Education
Department of University Schools, The Ohio State University

AFTER being asked to speak on the above topic some time ago, I thought that I had better make an effort to define some of the terms involved. Upon investigating, my eyes fell first upon the noun "clinic" which relates to ecclesiastical history and here it is: *Clinic*, n. One who received baptism on his death bed or postponed it until then, believing that sins committed after the reception of this sacrament could not be atoned for."

Now I would not be surprised if, after all, this noun "clinic" was not the one folks had in mind when they first applied the term to the doings of certain football coaches, who were prone to put off atoning for their sins until about Thanksgiving Day. If I remember rightly, the term "clinic" in athletic parlance, was first applied to gatherings of football coaches.

Medically, rather than ecclesiastically the word "clinic" refers to the gathering of a number of students at a clinical lecture where instruction takes place by the examination and treatment of patients. The introduction of the "clinical

method" of instruction in medicine was a great advance, chiefly because it made for much more effective learning. Rather recently, we have seen it adapted very effectively to the education of law students where the patients in this case become "clients."

Let us consider some more definitions. Note the dominating tendencies in a number of definitions of education.

"Education is a social process of change in the behavior of human organisms.

"Education consists of all those changes which from birth to death are wrought in the individual by the process of learning.

"Education is the significant change brought about in one's interests, attitudes, outlooks, insights, knowledges and skills.

"Education is the organization of acquired habits of conduct and tendencies to behavior.

"Education is the sum total of the activities of the human organism.

"Education is the sum total of afferent impulses affecting the organism.

"Education consists in modification of the central nervous system."

It is obvious that there are many common factors evident in these definitions. In general these are growth, change, development and activity. Obviously education implies learning and learning implies change. To learn is to become different and to teach is to cause to learn. The criterion of learning is change in behavior. If the student of golf aims at "breaking a hundred" and starts with a 150, and by scores of 140, 130, 120, and the like, gradually gets down to 100 we have evidence of a progressive change in behavior toward the goal he set and we imply retention. Retention is not something observed; changes in the nervous system are not observed but the concrete fact of retention is based upon the experience that the behavior can be repeated and that behavior shows the result of previous training. Retention is purely a physiological affair. What remains is a changed condition of the nervous system. The learning process is what oc-

HERE'S TO COMPETITIVE SPORTS

FOUNTAIN-HEAD OF AMERICA'S STRENGTH

By L. B. ICELY, President

A nation's strength is the strength of her people. Our forefathers were hale and hearty men because their way of life made physical strength imperative to survival.

Today our life is soft by comparison. Food, shelter, clothing come to most of us without physical effort.

Only one American way of life insures strong, virile, durable bodies for our youth.

Our vigorous, competitive sports take the place of the pioneers' unavoidable exercise. Without these sports to develop muscles, stamina and courage our youth would be soft and our nation would be weak today.



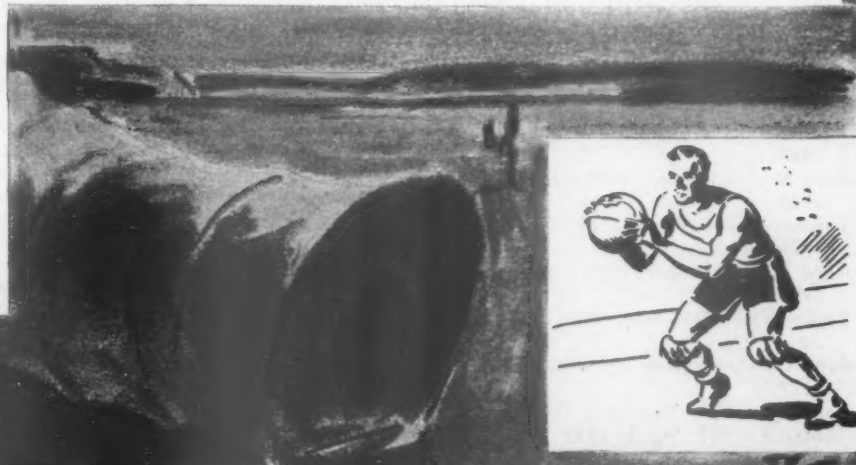
So here's to competitive sports—America's fountain-head of strength—the present-day means by which America's boys and girls develop the physical fitness to survive both war and peace.

And here's to basketball, one of our highly competitive sports, participated in by millions of our youth.

So far as our war equipment production and available materials permit, we will continue to supply the sports equipment so essential to America's physical fitness programs among our fighting forces, our production workers and civilian population.

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curs between the time elapsing between the first tee of the first round and the last tee of the last round. Somehow and somewhere along the line, errors are eliminated and desired responses become more numerous. In this sense the learning process is the elimination of undesirable responses.

Athletic clinics are educational when they provide excellent means of facilitating the process of learning, and of illustrating methods most effective in the acquisition of skill.

We must admit that, while the organism functions as a unit, as a whole, we must distinguish between motor learning and ideational learning. We do this although in every learned act there are elements of both. As specialists in physical education, we spend a somewhat larger portion of our time on motor learning, emphasizing the process of elimination, combination and co-ordination. This consists largely of the selection and establishment of the effective movements and the elimination of ineffective movements. Here motor activity is predominant. The final product is modified behavior. In ideational learning, mental activity is predominant. The final product of the learning process is a new mental attitude or idea resulting in a new form of behavior.

At this point I desire to state very frankly that in this article, I am limiting myself quite definitely to the question of motor skill. The bi-socio-psychological implications of motor skill would take up another period. Skills, as ends in themselves are important only as means of attaining wider educational values which have been called concomitant learnings; educational by-products. Activity without a philosophy which gives it direction and meaning is both futile and dangerous. Furthermore, it makes teaching a trade—emphasizing motor skills—instead of a profession where imagination, novelty, inventiveness and meaning are the concomitants of skill. The coach who sees on the football field or basketball floor a biological, a sociological and a psychological drama unfold before him cannot help being a philosopher. Likewise, his boys will see new meanings, make new interpretations and find new values in their activities.

Motor skill is acquired through the formation of connections between sensory stimuli and motor responses; therefore, it is often called sensori-motor learning. In any form of skill, the movements are guided by outward stimuli or at least by sensations which outward stimuli produce. Skating, for example is a series of delicate adaptations to sensations, chiefly kinesthetic and those coming over the vestibular branch of the auditory nerve connecting with the semi-circular canals of the ear. Sensations are necessary to the development of skill. In learning to write, the child is concerned, not only with move-

ments, but with the adjustment of the movement to the form of the letter which he apprehends through visual perception. After the kinesthetic sensations gain representation in the cortex, he has a "pictured movement" of the letter and can write it with his eyes shut, just as the basketball star can toss free throws while blindfolded. Dr. Frank N. Freeman of Chicago classifies sensori-motor learning in three categories. In the *first class*, we connect movement already under control with perceptual elements. For example, when I learned to drive a car, I could press my foot on the brake and clutch and pull back the gear shift, or push it forward the first time I got in the car, but it was a question of learning to do these things in the proper sequence and under the proper conditions. In the *second class*, we organize new movements in response to stimuli. The child learning to write does this. New patterns result after much over-production of movement resulting in large uneven letters which become refined with practice. In the *third class* the series of movements is more complex, and the stimulus to which the response is made is more highly organized as in typing. Here the movements, although not radically new must be organized or arranged in a complex series or patterns, and one must recognize the stimulus words or notes to which the movements are the response.

Athletic clinics will perform their educational functions to a higher degree, if the teachers involved emphasize the conditions favorable to learning and particularly if they encourage research, for motor control is important in various activities. Psychological experiments upon motor control furnish few suggestions concerning methods of instruction, because they have ordinarily been conducted upon untrained learning. We have a great amount of empirical discussion, but practically the only point upon which there is agreement is the necessity of good form, but even here there is often radical disagreement as to what good form is in any given case. The chief conditions favorable to learning appear to be:

1. Maturation. There is an aspect of learning that requires time and is akin to physiological growth. Trying to teach a child to skate before his nervous system matures to a certain point may be a waste of time. He might make much more rapid progress at a later date.
2. Absence of fatigue.
3. Pleasure.
4. Rhythm.
5. The proper time intervals between repetitions of the stimuli.
6. Repetition of the stimuli—Practice with a purpose.
7. The completeness with which the stimulus pattern is repeated. The whole-part method.
8. Purpose. The intention to remember. Concentrated attention.
9. Absence of interfering habits and associations.

While teaching a course on motor learning some time ago at Springfield College,

my students and I drew up some suggestions for the construction of performance and teaching manuals. The students were encouraged to construct performance manuals in various activities such as the shot put, skating, teaching the waltz, and dozens of other motor activities. In doing this they established teaching procedures, founded on scientifically sound methods, collected valuable teaching materials and gained psychological insight into their professional problems. Although this material was aimed primarily at the skill training of future coaches, it is offered here to stimulate new thinking about teaching for skill. Not only is this a problem for the athletic coach but a tremendous problem in training the soldier, the sailor, the aviator, and the various artisans upon whom the combatant depends so strongly for material equipment.

Suggestions for the Construction of Performance and Teaching Manuals

What is skill? "The conscious acquaintance with and mastery of all parts of the body that may properly come under voluntary control." Skill is an organization and integration for the most part of bodily habits. It is a smooth co-ordination of reflex and habitual actions which have arisen during the individual's life. Skill is developed through the senses. The pupil takes directions as to what he is to do, and on the accuracy with which his senses record the impressions upon them, depends the mental model, he ultimately follows, and the accuracy of his criticism and check-up of his results. The senses

most utilized are best trained.

Teaching versus Learning. We can teach a person form or how the proper movement is made. He learns it by actually trying to execute the movement after the proper mental image or model is obtained. His learning will depend upon accurate sense perception. When one knows what is expected of him, he directs and controls his attention and observation accordingly. Practicing without a definite purpose is like walking without a destination in view—you never arrive. When we cannot know exactly what we are seeking, it is impossible to measure our approach to the thing sought. What is the student trying to learn?

I The Major Problem: The teaching of "form" and the learning of skill in.....(state activity).

A Know what to practice. What are the right movements? What is good "form"?

B Know where to locate the fault. Right habits must be instilled:

1. First *think* correctly.
2. Then *do* correctly.

C Know how to correct it.

1. Teach right methods.
2. Teach right habits of doing right methods.

D Drill with attention until the desired result is obtained.

1. Right motions, both in number and in sequence.
2. Constantly-increasing speed, only as correct form warrants.

II Planning the Solution: The construction of a performance and teaching manual.

A A definite plan of teaching.

B A system of instruction always available. (Written systems enable the student to receive instruction at any time.)

C Bad habits the result of undirected learning.

D Instruction manuals give defined descriptions of standard practice and directions as to how each element of the task is to be performed. Strive constantly for clearness.

E Tutors translate, explain and supplement written instructions.

F Visual aids: drawings, charts, plans, movies, photographs.

G Object lessons; demonstrations by tutor and expert.

H Records of progress charted by student himself.

III The Advantage of Performance and Teaching Manuals:

A A definite standard in skills.

B The student is advanced according to demonstrated ability, not according to time spent.

C A manual will serve as specifications of accomplishment for each skill or event.

D The material in the manual is used to chart and measure progress objectively toward a set goal.

E The manuals will act as an incentive and stimulus to interest and will greatly aid the student in teaching.

Accuracy in Basketball

By L. R. Saltis

Formerly Coach of Stow, Ohio, Junior High School. Now Overseas as a Recreation Director for the Red Cross

DURING seven years of basketball coaching in junior and senior high schools, I have had many occasions to observe that games are won and lost by margins of free throws. I have made an attempt to ascertain the importance of such factors as age, height, weight, years on a squad, home floors versus foreign floors, close games versus one-sided games, lighting, et cetera, on accuracy in basketball.

The Effect of Close Games and One-Sided Games on Accuracy

Data for Table I was secured from the six basketball scorebooks of the schools with which this study was concerned. An attempt was made to select the closest games which were played during the 1940-1941 basketball season. A few of these contests were overtime affairs. Data for

the one-sided games was secured in the same way, except that games were selected on the basis that one team was decidedly superior to the other club.

This table reveals a few interesting facts about the relationship of close games and one-sided contests and the effect on free-throw accuracy. In the first place it shows that in the twelve contests selected for this study the *losing* team will show greater accuracy at the free-throw line than the winning team, 50 per cent to 48 per cent, or a gain of 2 per cent. This fact seems to support Veenker's¹ contention, "That the strain and tenseness of a close game will work against the player." On the other hand, the winners of a one-sided game will show a decided superior-

ity in free-throw accuracy, 56 per cent to 40 per cent, or a substantial margin of 16 per cent.

It seems possible that in a one-sided game with a lack of tenseness found in a close game, the winners will have a margin of 8 per cent over the winners of a close game.

Another interesting fact revealed in the table is the almost similar number of free throws received by the winners in close games, 162, and the winners of one-sided games, 160. Most coaches, spectators and players assume that the winner of a one-sided game will receive a greater number of free throws than the winner of a close game. The losers of close games receive almost a similar number of free throws as the losers of one-sided games, 139 to 142. If averages are taken the table shows that the winners of close games will shoot 13.5 free throws per game while the losers will

¹ Veenker, George, "Basketball for Players and Coaches, New York, A. S. Barnes and Company, 1929, P. 79.

shoot 11.5 free throws. In one-sided games the winners will shoot 13.3 free throws with the losers shooting 11.8. Summing up, it is possible to say that officials call approximately the same number in one-sided games. These facts, no doubt, will astonish many readers.

Referring to the table, readers may definitely learn the importance of free throws by scanning the column under close games. It is found that the outcome of many games could be changed, if the losing team had been a trifle more accurate at the free-throw line. In six of the games mentioned the losers made less than half of the free throws awarded. Free throws missed during the game seem to have little effect on the outcome of the game, but later developments prove that if just one or two of these free throws had been made the entire outcome of the game would have been changed.

The questionnaire revealed that the coaches in the Metropolitan League agree on the importance of this factor in shooting free throws. The coaches state that in one-sided games the potential winners are more relaxed with the resulting increase in accuracy, while the eventual losers are usually tense because of the superiority of the opponents and will usually have a very poor free-throwing per-

centage. These assertions are proved in the table. Coach Maurer of Springfield stresses the relaxation of boys who have a decided superiority over their opponents and declares that, if this relaxation could be carried over into all phases of athletics, coaches would have accomplished the greatest part of their job. Coach Barr of Stow states that some boys may underestimate the importance of free throws in a one-sided game with the result that accuracy will be poor in these games.

Free-Throw Accuracy on the Home Court Compared with Accuracy on Foreign Courts

Table II seems to uphold to some extent Eibel and Allen's² contention that, "It is realized that there is a decided advantage to the team playing on its own court." This contention refers to all phases of basketball but it seems that the home team does have a slight advantage in making free throws on its own court. Team totals will vary slightly with teams making 341 free throws in 696 attempts on the home courts resulting in an average of 48 per cent. Therefore, the home team has a very slight advantage of 1 per cent in accuracy.

The table also reveals that some teams are definitely "home teams" in making free throws. That is, these teams will have a higher percentage on the home court. Norton is the outstanding example of this case with a foul-shooting percentage of .56 at home and .44 on foreign courts for a decided advantage of 12 per cent. Coach Fry of Norton contends that a team will usually have a higher percentage on the home court and performance of his team supports his contention. Coventry and Ellet on the other hand are better foul-shooters on foreign courts although the difference is not as great as that of Norton. Coventry has a percentage of .41 at home and .45 away, for a difference of 4 per cent. Ellet has a percentage of .46 at home and .50 away, for a difference of 4 per cent. This disproves the contention of coaches Miller (Coventry) and Zemla (Ellet) that this factor will not affect foul-shooting accuracy. In answering the questionnaire both coaches stated that players should have the same degree of accuracy on the home court as on foreign courts.

The table further shows that Stow and Kent State are slightly more accurate on the home courts than on foreign courts. Stow has a percentage of .50 at home and .49 away, or a difference of 1 per cent. Kent State has a percentage of .42 at home and .41 away. Coach Barr of Stow asserts that basketball goals have been standardized and players will be just as accurate on foreign courts as they are on the home court, although the members of his squad have a tendency to do slightly better at home. Coach Van Hyning of Kent State contends that players have more confidence on the home court and will usually have a higher percentage at home; the table shows that the members of his squad do have a slight advantage on the home court.

Many coaches will agree with Coach Van Hyning's contention that players seem to have more confidence on the home court, although there are players who develop a preference for certain courts and will have a good percentage in their free throws. This sometimes happens especially if the home court is a mediocre one. This may account for the fact that Ellet, a team with a very poor gymnasium, and Coventry, a team with a mediocre gymnasium, have a better percentage in free throws made on foreign courts than on home courts.

In stressing totals, the table reveals that there is no appreciable difference in the number of free throws awarded on the home court, 696, and on foreign courts, 702. Norton, Kent State and Springfield were awarded a greater number of free throws on the home courts, while Coventry, Stow and Ellet were awarded more free throws on foreign courts.

² Eibel and Allen, "Evaluating Team and Individual Performance in Basketball," Research Quarterly, XII (October 1941), 547.

TABLE I
THE EFFECT OF CLOSE GAMES AND ONE-SIDED GAMES
ON FREE-THROW ACCURACY

CLOSE GAMES							ONE-SIDED GAMES						
WINNER			SCORE	LOSER			WINNER			SCORE	LOSER		
Free Throws	Free Throws Made	Final Per-cent		Free Throws	Free Throws Made	Final Per-cent	Free Throws	Free Throws Made	Final Per-cent		Free Throws	Free Throws Made	Final Per-cent
14	9		29-28	20	10		16	9		43-15	19	7	
10	6		34-32	17	8		9	5		47-17	11	3	
8	3		29-27	16	5		22	11		58-27	20	9	
13	5		41-40	11	4		17	9		35-14	4	2	
21	9		29-27	11	3		12	5		31-11	10	4	
12	7		27-25	11	5		9	3		44-15	12	8	
17	4		18-17	5	3		13	9		33-10	10	4	
12	6		26-24	9	6		8	5		47-17	13	3	
19	9		31-28	13	6		11	8		44-15	10	3	
9	4		36-34	10	8		12	5		51-21	8	5	
14	7		24-22	5	4		10	7		41-19	14	9	
13	9		31-28	11	8		18	9		33-13	14	5	
162	78	.48		139	70	.50	160	90	.56		142	57	.40

TABLE II
A COMPARISON OF FOUL-SHOOTING PERCENTAGES ON THE HOME
COURT WITH FOREIGN COURTS

	HOME COURT			FOREIGN COURT		
	Free Throws	Free Throws Made	Percent	Free Throws	Free Throws Made	Percent
Norton.....	157	88	.56	140	62	.44
Kent State.....	125	53	.42	105	44	.41
Springfield.....	118	65	.55	112	62	.55
Coventry.....	109	45	.41	120	55	.45
Stow.....	98	49	.50	120	59	.49
Ellet.....	89	41	.46	105	53	.50
	696	341	.48	702	335	.47

Physical Fitness Through Physical Education for the Victory Corps

UNDER the above heading a second bulletin has been issued by the United States Commissioner of Education. This is, in reality, a follow-up for the Victory Corps bulletin issued some months ago. In fact, it is a detailed explanation of the physical fitness requirement, listed in each of the six Victory Corps divisions. Every man connected with the physical education departments of our schools and colleges, was pleased to note that a physical fitness program was one of the basic requirements in each division.

We have been so thoroughly convinced that the Victory Corps organization is an excellent war-time project, that we have continued each month to print the basic requirements of the six divisions. This means that every secondary school in the country has had available the concisely stated requirements. Many statements showing the enthusiasm of coaches over the organization have been received. We take the liberty of quoting one from a former basketball coach in a Georgia high school, now a Lieutenant in the Army. "Your promotion of the Victory Corps is an excellent idea. I hope that this organization will not die with the war; that it will continue as long as it is useful. Such a corps, if vigorously projected, will do much to build and maintain the physical fitness of present and future high school students of the United States. We definitely have a need for this type of organization. Keep it going!"

May we suggest that one way to keep it going is for school administrators to keep A. L. Threlkeld, National Director, High School Victory Corps, Washington, advised of the organizations in their schools and the progress they are making. The following announcement was made in one of their recent releases.

The Office of Education is eager to hear from all Victory Corps schools. Information about organization plans for Victory Corps units, activities of each of the divisions, human interest stories, and news of individual Victory Corps members who are doing outstanding jobs, volunteer services, and curriculum changes will be appreciated. Please address Information Service, U. S. Office of Education, Federal Security Agency, Washington, D. C.

Such items of interest as the following will do much to further the project.

One hundred boys at the Horace Mann School for Boys in New York City are studying pre-flight aeronautics, and others attend classes in advanced mathematics and physics. All students are engaged in a physical fitness program.

Knoxville High School in Knoxville, Tennessee, devoted most of an issue of its weekly newspaper, *The Blue and White*, to the Victory Corps. Said the student editor, "This is not a time when mere aspirations get high results. We must act and work and sacrifice for results."

Philadelphia launched its High-School Victory Corps program with colorful ceremonies at historic Independence Hall on October 21.

Montclair High School, in Montclair, New Jersey, offers six special Victory Corps classes. Courses for boys include Fundamentals of Radio and Code, and Fundamentals of Electricity. Boys and girls may take Mechanical Drawing and Blueprint Reading, Elementary Trigonometry, Army and Navy Clerical Procedure and Pre-Flight Aeronautics. Other Victory Corps activities are being organized and it is expected that the complete program will soon be under way.

The physical fitness side of the program is of most interest to the readers of this publication. In this connection we shall be glad to hear what our coach-readers are promoting in their schools.

Bulletin No. 2

The second bulletin recently distributed to all secondary schools is complete in every detail.

A few paragraphs are quoted.

"This bulletin presents a war-time program of physical education that is planned to contribute to the physical fitness of high-school pupils as a part of the total war effort." It is hoped that this program will continue in existence long after the war is ended. Although we may not have a national compulsory physical education program, the results derived from this program during the war should be so evident and so beneficial that all those who head the physical education departments of the secondary schools will see to it that physical education everywhere becomes a part of the general education program.

"In general, the activity program should provide at least one regular school period daily of instruction in physical education for all pupils. The instructional period should be supplemented by an elaborate participation program including intramural and interscholastic athletics, and other vigorous activities. It is recommended that all normal pupils, after an adequate period of training, should participate in competitive athletics, mass athletics, road work, hikes, week-end journeys, camping and hard physical work for at least ten hours each week in addition

to the physical education period that is included in the school schedule."

We have had occasion to comment editorially many times, since this publication was founded, on the need of more time-allotment in the daily schedules for physical education. Many physical education directors have been cut to two, three and even one period a week. The recommendation, therefore, of a "daily period" of instruction will be welcomed by many a director of physical education.

"Each physical education period should be organized and operated in a way to provide a relatively long period of continuous participation in vigorous activities for all pupils. All routine activities, therefore, such as changing clothes, roll call, and moving pupils from one activity to another, should be carried out with as little loss of time as possible. All possible 'short cuts' in class routine should be used. Some suggestions concerning the arrangement and management of class periods are given in the following paragraphs.

"A typical class period: (40 to 60 minutes)

- "1. Changing from street clothes to gymnasium suits—4 to 6 minutes.
- "2. Checking attendance—½ minute.
- "3. Marching—2 to 3 minutes.
- "4. Conditioning exercises—8 to 12 minutes.
- "5. Group activities—18 to 28 minutes.
- "6. Showers and dress—8 to 10 minutes."

The suggestion of a forty to sixty-minute period will be pleasing news to the heads of departments who have been working on a twenty or twenty-five minute basis.

In Chapter IV, Activities for Boys, the following recommendations are made:

- "1. Five periods each week of instruction in physical education activities for all high-school pupils.
- "2. The continuous observation of all pupils by the teacher and a more complete inspection by a physician of all individuals who appear to deviate from the normal.
- "3. Increased emphasis on interscholastic and intramural athletics, road work, hard physical labor, and camping.
- "4. The use of vigorous and rugged activities instead of many of the recreational sports that have been used."

The statement in paragraph 4 is one for which the readers of this publication, the majority of whom are coaches, have been waiting. They know the value of athletics in the conditioning of boys and will be glad to learn of the emphasis put upon this in the Physical Fitness Manual issued by the United States Office of Education.

Requirements for High-School Victory Corps

BECAUSE of the many requests for additional information regarding the High-School Victory Corps which have been received at the office of this publication, the requirements for general membership and for the five special divisions are reprinted. The insignia (exact size and color) are shown on cover 3.

The Victory Corps bulletins have been distributed by the United States Department of Education to the principals of all secondary schools, to state superintendents, and to city, county and diocesan superintendents. Additional copies of these bulletins may be secured by writing to the Department of Documents, Washington, D. C. The price per copy is fifteen cents.

Since one of the electives in the special divisions of the Victory Corps is a program of military drill, information has been sought by high school administrators on inaugurating drill in their schools. The official Infantry Drill Manual is, of course, the most authoritative source for this program. A copy of the manual may be secured from the Superintendent of Documents at a cost of thirty cents.

Students should not write us for insignia. They must file applications for membership in all divisions with the principal of the high school, or the person designated by him to organize the Victory Corps. (For application blank see page 6, October issue.)

Coaches are expected to take an important part in the organization of Victory Corps, since participation in physical fitness programs is required in all divisions.

General Membership

1. The student should be participating in a school physical fitness program appropriate to his abilities and needs in the light of his probable contribution to the Nation's war effort.

2. The student should be studying or have studied school courses appropriate to his age, grade, ability, and probable immediate and future usefulness to the Nation's war effort, within the limits of the facilities of the school.

3. The student should be currently participating in at least one important continuing or recurring wartime activity or service of the types indicated in the suggestive list of Victory Corps service activities: 1. Air warden, fire-watcher, or other civilian defense activity; 2. U. S. O. volunteer activities; 3. Red Cross services; 4. Scale model airplane building; 5. Participation in health services, such as malaria control; 6. Farm aid, or other part-time employment to meet man-power shortages; 7. School-home-community services, such as salvage campaigns, care of small children of working mothers, gardening, book collection.

Production Service Division

a. Must have pursued or be pursuing a program which includes courses which are definitely pointed to preparation for work in the field of agriculture.

b. Must have pursued or be pursuing a program which includes courses which are definitely pointed to preparation for work in the field of trades and industry.

*c. Must be participating in a physical fitness program.

d. Must have engaged or be engaging in part-time work, either paid or voluntary, in some form of production.

e. Must be participating in a program of military drill. (c) required, select two others.

Air Service Division

a. Must have pursued or be pursuing a program which includes one year of high-school physics and three years of high-school mathematics.

b. Must have pursued or be pursuing a course in pre-flight aeronautics.

c. Must have pursued or be pursuing a course in automotive mechanics, radio, electricity or a vocational shop course which gives preliminary preparation for the servicing, maintenance or repair of aircraft.

*d. Must be participating in a program of physical fitness.

e. Must be participating in a program of military drill. (d) required, select two others.

Community Service Division

a. Must have pursued or be pursuing a program which includes courses definitely pointed to preparation for service occupations at the professional level.

b. Must have pursued or be pursuing a program which includes courses definitely pointed to preparation for commercial, distributive, homemaking or similar community service occupations to be entered upon leaving high school.

c. Must be engaging in some form of part-time work, either paid or voluntary, in some form of community service.

*d. Must be participating in a program of physical fitness. (Required)

e. Must be participating in a program of military drill.

Sea Service Division

*a. Must have pursued or be pursuing a program which includes courses in high-school mathematics, preferably through plane trigonometry.

b. Must have pursued or be pursuing a program which includes at least one year of high-school laboratory science, preferably elementary physics.

*c. Must be participating in a program of physical fitness.

d. Must have pursued or be pursuing a course in the elements of navigation.

e. Must have pursued or be pursuing one or more shop courses.

f. Must be participating in a program of military drill. (a) and (c) required, select one other.

Land Service Division

*a. Must have pursued or be pursuing a program which includes at least one year of high-school mathematics, or its equivalent in shop mathematics.

b. Must have pursued or be pursuing a program which includes at least one year of high-school laboratory science or its equivalent in shop science.

*c. Must be participating in a program of physical fitness.

d. Must have pursued or be pursuing a program which includes one or more special preinduction courses.

e. Must have pursued or be pursuing a program which includes one or more shop courses.

f. Must be participating in a program of military drill. (a) and (c) required, select one other.

Dressing Up the Physical Fitness Program

By Frank McIntyre

Dearborn, Michigan, High School

HOW can I keep my program of physical fitness moving at an accelerated pace when classes move indoors for the late fall, winter, and early spring seasons? This question, no doubt, has been perplexing many physical training instructors. The answer is to do some exercising of your own—mental, not physical.

Lack of space and scarcity of equipment will be an incentive to every instructor to exercise his ingenuity in maintaining the ruggedness and diversity of activities that are so essential to this type of program. Possibly, the initial step that may be suggested is an inventory of the plant and equipment. What have you in the way of structural peculiarities in your plant that might be utilized as a substitute for some of the natural or constructed implements of your outdoor program? What can you reclaim from your gymnasium apparatus that may have been stored during the time that the game program monopolized the physical training periods? Is there any paraphernalia that might be borrowed from the inter-scholastic sports equipment?

The procedure that follows was used by the writer with results that were gratifying. It is his desire, in recording the adaptations made, to be of aid to some one in fashioning a program and to others a means of diversifying their programs. It will be necessary to list some of the activities carried on at our school to show how we were able to use the equipment that was inventoried, but in so doing, it is not with the conviction that they are the perfect exercises, nor do they supply a complete course to follow indoors.

In our school, a balcony, fifteen feet above the floor, traverses one end of the gymnasium. A sturdy three-tiered iron railing for spectator protection runs along its entire width. Use is made of this structural feature by securely fastening ropes to the railing and having the participants scale the wall by their aid. This climb is made with the feet against the wall, much as in the manner of mountain climbers. Another activity which we will use later in the year is that of having the boys aid each other by hand boosts and pyramids to reach the lower rail for a pull up and over. A stairway leading from the lobby of the gymnasium to this balcony is used as an obstacle for boys to surmount. Lightweight blocking dummies (weighing about fifty pounds, borrowed from the football squad) are carried into the balcony and dropped over the railing to the floor, and when more rugged lads comprise a class, the dummies are caught. Both of these activities may be used as

relays after the groups have familiarized themselves with the fundamentals.

Climbing ropes suspended from a ceiling girder make ideal implements to take the place of some of the features of the outdoor obstacle course. The familiar technique of hand-over-hand ascent, monkey climbs and other accepted rope exercises are supplemented by commando-type moves. In one of these exercises, a chalk line is drawn on the floor and the boys grab a rope as it swings over this and retreat to its farthest limitation, where, with a few quick, running steps they take-off just before reaching the line; swing across a floor space known as a "ditch." Releasing their hold on the rope at the farthest point of their swing they endeavor to land on mats designated as the "shore." Individual competition is developed among the boys to see who can attain the greatest distance past the "shore" line. Sometimes we send those landing in "water" area to another activity or reverse this procedure, if there seems an inclination on the part of some to fail in the maneuver. Parallel bars, horse, or a sturdy table, covered with mats make an obstacle to swing onto or over, with the aid of the rope. Interesting and exceedingly active relays may be made up from these rope activities.

The horizontal bar, parallel bars, horse, and mats are a source of well-nigh inexhaustible varieties of movements exclusive of the more formal types that are associated with them. These well known exercises should not be entirely abandoned but, rather, they should be speeded up, by discarding the requirement of memorizing nomenclature and excluding those movements that are of the trick variety. Vaults, mounts, and exercises that bring the performer into inverted positions should be retained for the balancing sense and co-ordination that they develop. To these, may be added such activities as scaling a long mat, hung over the horizontal bar at varying heights; lowering the bar until the supported mat trails on the underlying mat and having the members of the class run and execute a rolling block with the shoulder striking the hanging mat and continuing to roll on under. This may be done in rapid-fire order, forcing the individual to make a quick recovery, so that he will be out of the way of the following performer. Still another activity with the mats in this position is that of having the boys fall to all fours, when they reach the floor mat and "bull" their way under the hanging mat as the instructor or a class member furnishes resistance on the far side of the mat.

The parallel bars, because of their mo-

bility and the ease with which they can be lowered or raised on opposite sides, afford a vehicle for interesting maneuvers. With one bar lowered and the opposite raised, it is possible to have an over-and-under exercise, by having the boys approach them at a right angle to their long axis. Sometimes we lower one side and raise the opposite bar, and place a mat to cover the bars and the space between them; again the class has a jump and scale surface to negotiate. By placing the various pieces of apparatus in advantageous positions on the floor, fast moving and energetic relays may be held that are responded to with enthusiasm.

The blocking dummies are used in relays that are too numerous to enumerate and are limited only by the instructor's ingenuity. We often suspend one or two from climbing ropes, horizontal bars, and often from the parallels, using them, in these positions, as punching bags and battering targets to be charged and hit with shoulders and bent forearms. They also make excellent substitutes for steel posts, when placed at the corners of boxing mats. By stringing a clothesline through the top and side handles, we have a complete boxing ring. We urge the boys to bring old canvas or leather gloves from which the fingers have been cut, to be used as protection for their knuckles, while punching the heavy bags.

Another activity in which we employ the heavy dummy, an activity over which the boys are enthusiastic, is the following: We suspend a dummy so that it clears the floor mat by about eighteen inches. A short fast run is made by the performer in approaching; when within "shooting distance," he drops to his hands and knees, facing away from the dummy and aims a smashing two-footed kick at the mid-section of the target, while his weight is supported on straight arms. To add more action, we have the boys make a quick recovery after the kick and try to charge the dummy, before it swings back to its normal position.

Boxing instructions and activities need not call for a large outlay of equipment; we have about fourteen sets of training gloves for classes averaging seventy in number. Football helmets may be used for head protection, if the need arises.

Instructions in stance, guard position, leads, counters, and footwork are given to the entire class in an open formation. After the preliminary moves have been explained and demonstrated, the instructor gives the command, "On guard." Assuming this position, the class is ordered to follow the movement of the instructor's hand; thumb over the shoulder, means

"Advance," pointing to the rear is "Retreat," and so on, patterned after the drill used in teaching basketball footwork. The instructor should insert, during these movements, commands for various leads and counters such as "Left jab," "Right cross" and others.

For actual contact work the class pairs off, in early workouts by size, and later

according to ability, and are seated on opposite sides of the floor. Seven pairs of opponents don the gloves and, when the instructor blows a whistle, advance from their positions on either side of the floor and engage partners for one or one and a half minutes. A second whistle stops the action and the gloves are passed to the next seven members of each line and the

procedure is repeated as before.

The above-mentioned activities, added to the regular routine of calisthenics, tumbling, apparatus work and sports program, have dressed up our physical training periods indoors, to the extent that the boys are asking for time, after school is over, to practice on some of the movements.

Approaches to the Problems of Physical Education in the Small Schools for War and Post-War Periods

(Continued from page 22)

changes position with the defensive team.

Lead-up games

- Relays.
- Passing.
- Passing and catching.
- Centering and catching.

Hockey

Modification

- Six-player field hockey.¹⁸

Soccer^{2, 6}

Modifications

- Rotation soccer.
- Foot volleyball.
- Individual soccer.

Lead-up games

- Soccer obstacle dribble.
- Dribble pass bowling.
- Dribble kick bowling.
- Shuttle dribble and pass relay.
- Circle football.

Programs for elementary schools can be arranged very easily by adapting or modifying suitable source material which is already available.¹⁶ Programs for both elementary and high schools, of course, would not be complete for present day usage without the inclusion of subject matter and information on first aid, what to do in case of air raids, and games and activities which can be performed during raids. Information on these subjects may be secured, in order of presentation, from the American Red Cross, National or Local Office of Civilian Defense, and the National Recreation Association.^{1, 15} Before any of these programs are put into effect it is highly advisable that adequate medical examinations be given all pupils and that follow-up measures be taken for the correction of defects. If medical examinations cannot be given every year they should be given, at least, once during a particular school level.

Major needs as indicated by the problems of the smaller schools in the foregoing discussion (many of the larger schools have similar needs) are as follows:

1. More and better facilities, equipment, and physical plants.
2. More well-trained teachers to instruct physical education in the periods supposed to be devoted to this subject but in some cases given over to academic

subjects; and more teachers for schools which have little or no physical education program.

3. Better planned and organized curriculums concerned with physical and mental health, safety, social and character development, and training in applying knowledge or adjusting oneself to life situations. A well-balanced program of motor activities is necessary for abundant health, physical stamina, endurance and mental vigor which are equally useful both for the prosecution of this war and for the pursuit of peacetime activities in the post-war period.

4. More class periods per week devoted to physical education with provision for academic credit for all students.

5. More physicians to examine the school children, many of whom have never had a mental and physical appraisal; and to follow up the examinations for correction of defects and maladjustments.

It is evident that the solution of these problems and the fulfillment of these needs are dependent upon the obtainment of sufficient funds. Adequate financial support and school control can be more readily secured if larger school units are employed and the school itself is large enough to obtain sufficient revenue without forcing exorbitant taxation upon the supporting community. Finally, if this whole physical education system is to be continuously improved, extended, and perpetuated in accordance with sociological and pedagogical changes, it must be placed under the judicial guidance of a school official with experience and training in this field.

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A Fast-Break Coaching Philosophy for the High School

(Continued from page 15)

hard for fast-break situations. Every team will nearly always have some situations, where they have absolute control of the tip on jump balls in their back court. From this they will have excellent fast-break opportunities, especially when the opposition pulls both the guards in close to the jump-ball area.

We do not hold our players on the fast break to the specific three-lane fast break. The general rule we give is for the player with the ball to head down the middle of the floor, and the other players should spread out, by cutting toward the side lines and then directly down the floor toward the basket, or criss-cross from one lane to the other. Breaking directly toward the basket is faster, but with defensive men back, criss-crossing will protect the passes more, preventing interceptions and giving the players a better chance for a reverse to look the field over for teammates driving in. Anytime the players see that the defense is back, the rule is for the players in the outside lanes to criss-cross, always being careful not to jam the lane, where the ball is. By criss-crossing from lane to lane, better protection can be given the ball momentarily, until another offensive player comes driving in for the offensive outnumbering-the-

defense situation. If the defense is not back, the rule is to drive straight at the basket. High school players must be coached to pick their lanes, and to break for open areas or spots, to receive passes, so as to get the fast break going. In the fast-break offense, as in all high school offenses, the team will have a tendency to have two or three players, breaking to the same spot at the same time, jamming the machine, spoiling the timing, and destroying the floor balance that is essential to good team play. These are the first field judgment factors that high school players must be taught. In the fast break, if all players break to the man with the ball, or down the middle with him, they will get in his way, and the fast break will be stalled by its own originator. If the players are taught a few factors in field judgment, concerning floor balance, breaking for open areas for passes, and spreading in lanes, and if they apply them on the fast-break offense, the defense will have to declare itself somewhere and leave a weak spot, so that the ball-handler can either pass off, or go in for a shot. If the offense fails to outnumber the defense with these tricks, then the team should bring on the set-offensive.

The Two-Fold Objective of Wrestling in Navy Pre-Flight Training

(Continued from page 10)

ling has many contributions to make to the general run of American youth of high school age that cannot be found in the two traditional scholastic vigorous sports, namely, football and basketball. First, wrestling gives the small boy an opportunity to compete with a lad his own size, on equal footing; second, it brings a competitive sport to a new group of boys who may not be interested in other types of sports activity and, third, it is one of the few sports that puts an athlete entirely on his own with no help from team mates, coach or other person. He wins or loses on his own merit and there is no possibility for an alibi. This realization on the part of a competitor definitely makes for sincerity and intense applica-

tion to his training and practice schedule. Any sport that can develop a sincerity of purpose or a determination to achieve a set goal, is certainly of value to our youth.

It is evident that schools throughout the country are scrapping the recreational type of physical education program and replacing it with a program of hard work that will surely develop a vigorous, self-reliant product. High school students are taking physical education daily instead of once or twice weekly; obstacle courses are being built; cross-country competition is gaining favor; open-order drill is back; sports programs are being set up to include the entire student body. Give wrestling a try. Add it to your sports program. Your boys will like it.



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ALTA-CO POWDER can reduce the incidence of Athlete's Foot—an exhaustive test in a huge institution demonstrated this. Alta-Co Powder is effective because it kills all the different fungi, as well as the spores, common in Athlete's Foot.

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The Stanford Offense
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The Stanford Fast Break
Five Steps in Its Development
The Three-man Figure 8
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Offense for Pressing Defenses

CHAPTER VII Defensive Basketball

Individual Fundamentals
Fundamental Drills

CHAPTER VIII Team Defenses

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Basketball Plus

(Continued from page 13)

A competitive spirit is the most important essential to creditable performance in any sport. Just how to describe such an attitude I find difficult, and how to instill it into a team is one of the deep mysteries for which no rules are available. The aspirations of an entire season, the goal or weeks of hard work are often lost for the want of it. A desirable attitude does not have to be the same for all sports, or for all departments in any single sport. For instance, a guard in basketball may be so nervous and jumpy that his hands shake and he may play the game of his life. On the other hand, a baseball pitcher afflicted with the same kind of nerves would probably lose all his control and get chased out of the box before the end of the first inning.

Hence, the type of nervousness which causes muscular reactions might not be harmful in nervous types of athletic performance. In fact, such nervousness wears

off and leaves the competitor *steady, alert, fearless* and possessed of more than ordinary stamina, if he can survive the first few minutes of the contest without meeting with misfortune and a consequent loss of confidence. I feel certain that this nervous preparation is a pre-requisite to outstanding performance in basketball.

In conclusion, I wish to say that college basketball is a *serious, hard and complicated, team-play game* which demands specific things of the boys for success. I recommend the following:

1. A realization that perfect physical condition and mental and technical preparations are necessary.

2. An ambition to succeed, coupled with equipment of a hard battle and a desire to win, and

3. A confidence in one's own ability and respect for the ability of the opponent.

Our Future Fliers Take to Boxing

(Continued from page 8)

instruction period, but is more intensive and competitive.

By the use of 14- and 16-ounce gloves,



Use of Mask—Specially designed mask protects the teeth and the nose of boxers while permitting freedom of movement.

mouthpieces, head gears, and aluminum supporters in all competitive bouts and training, broken teeth, cut eyes, and bruised ears have been almost entirely eliminated.

Since the Sports Program covers a period of two hours, thorough individual instruction and plenty of time for training and conditioning are made possible.

At regular intervals interbattalion bouts are held between eight selected champions at the various weights. All members of the two competing battalions are invited to these bouts. The contests are terrifically hard fought. The cheering from the supporters brings out the best in each battler.

The varsity program will be carried on by cadets who have had previous boxing experience such as interscholastic, inter-collegiate or A.A.U. competition. Outstanding performers in the Sports Program will have a chance to compete for a place on the varsity team. Competition for varsity boxing will come from nearby colleges, military and A.A.U. organizations.

The Contribution That Soccer Makes to Naval Aviation

(Continued from page 9)

and playing the man instead of the ball.

Pre-Flight soccer is easy to teach, calls for little equipment, occupies small space, is readily learned and gives a thorough work-out in a forty-five minute period. It is one of the most popular games at

this Pre-Flight School. Soccer would please the American public and would draw big crowds. It answers the American demand for a fast, rough, and high-scoring game, full of thrills and close scores.

TRAINERS JOURNAL

SECTION

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Of the National Athletic
Trainers Association

Training and Conditioning
of Wrestlers
Wilbur Bohm

Food for Future Flyers
Roland F. Logan, Lieutenant
U. S. N. R.



Head Trainer Hank Crisp, pre-war athletic director, University of Alabama, who heads a staff of seven former college trainers at the Athens, Georgia, Pre-Flight School.

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Office of Publication, Iowa City, Iowa

Athletic Trainers in the Service

IN the December issue under this heading, appeared a write-up of Hank Crisp, head trainer at the United States Navy Pre-Flight School, Athens, Georgia, and three of his assistants, Frank Lutz, Eddie Wojcecki and Mickey O'Brien. We continue in this issue with items of interest about Bill Dayton, Phil Hudson and Chief Joseph Kennedy who are also assisting Head Trainer Crisp.

Over in Memorial Hall, Bill Dayton, another member of the all-star trainer cast, was holding down the fort alone. Memorial Hall is one of a score or more buildings, the navy leased from the university last June for the use of its future fliers. Along with their revamped interiors and their double-decker beds most of the cadet dormitories have acquired appropriate navy names—Wasp Barracks, Ranger, Hornet, Lexington. The other buildings, devoted to athletic uses, have been altered to accommodate a maximum number of cadets with facilities for wrestling, boxing, gymnastics, hand-to-hand combat, basketball, swimming, handball.

"You're just in time for the afternoon rush," Dayton said, checking over his supplies. "In about two minutes, at the change of periods, they'll come swarming in here for treatment. The place is busier than a free clinic. Nothing serious, you know—just blisters, abrasions, bruises, minor sprains—the usual things that happen to kids when they're playing hard all day. Others come in just to have their ankles taped for protection. Ankles are pretty susceptible to injury and we believe in an ounce of prevention."

Dayton is a graduate of the Swedish Institute of Physiotherapy in New York. Before answering the navy's call, he had been head trainer at the University of Miami, at Coral Gables, Florida, where he also studied X-ray.

Dayton looked at his watch. "It's almost time," he said, smiling. "You wouldn't believe it, but our over-the-counter business runs from 250 to 300 a day. We work on orders from the dispensary too in

special cases—massage, manipulation, heat and physiotherapy treatments. We're directly responsible to the Bureau of Medicine and Surgery, you know."

The bell rang and the swarm descended—clear-eyed bronzed young fellows in athletic gear. Some had bruised elbows or knees, a few limped a little. They lined up in orderly fashion at the counter. These were Sixth Battalion cadets, veterans of two months of pre-flight conditioning. Muscles gleamed under the bright light. There was no flabbiness here.

Dayton worked quietly, efficiently. A few deft turns of tape and adhesive took care of a knee or an ankle. A dab of medication, a slab of chiroprapist's adhesive felt. This was the "over-the-counter" business.

"Let's see that knee today. We'll heat it up for you—see if that'll help. Hop up here under this infra-red lamp."

A tall, splendidly built fellow was next. Gold navy wings and an officer's uniform would look fine on a frame like his. "How's that ankle, any better?"

"I think so," said the cadet.

"All right, let's dip it in the pond again." Dayton led him over to one of the two whirlpool baths, deep metal tubs equipped with canvas seats. Its swirling waters apply heat and massage at the same time. "Okay now, that water's going to be a little warm, so take it easy."

Phil Hudson, youngest of the staff of trainers, came in to lend a hand during the rush. He'd been head trainer at Appalachian State Teachers in Boone, North Carolina, before the navy called him.

Chief Joseph Aloysius Kennedy made his ebullient entrance a minute later. Only uniformed member of the trainer staff, the Chief has a sleeveful of hash marks signifying twenty-seven years in the service, much of the time as physical training instructor aboard battleships and aircraft carriers. In 1933 and 1934, he served at the Naval Academy, conditioning football teams that whipped Notre Dame twice. Tom Hamilton, one of navy's football immortals, was head coach then. Now he's Commander Tom Hamilton, director of the whole pre-flight program. Mindful of Kennedy's talents, he had the Chief assigned to the Athens school.

"Never saw a finer group of boys anywhere than these cadets," Kennedy offered, yanking his sweat-shirt off over his gray head. At forty-six he still boasts 17-inch biceps—three inches more than Joe Louis. Once he held records in three weightlifting events.

"They work hard—never complain," Kennedy enthusiastically remarked. "And man, it's wonderful to watch them develop almost overnight! I've been in the navy a long time and I know what I'm talking about when I say this present crop of kids has what it takes. They'll make great fliers—the best in the world. You know the slogan—Rough, tough and smart! Yes, sir, that's them."

Other Navy Pre-Flight Schools have drawn largely on the Trainers Association for men to assist in conditioning the (Continued on page 46)

Training and Conditioning of Wrestlers

By Wilbur Bohm

Athletic Trainer, Washington State College

THE regular season for competitive wrestling is during the winter and early spring. The ideal time for the beginner to commence getting in good physical condition is early in the fall when school first takes up. The beginner should be restrained from engaging immediately in a wrestling contest, as he is not prepared with the rudimentary knowledge of holds and tactics. He has little or no knowledge or skill, and is probably lacking in certain of the necessary physical requirements. When he first begins training, he should avoid the natural urge to wrestle. He will avoid injury and progress more rapidly, if he learns the fundamental holds first. The wrestler who has knowledge of wrestling, should condition the muscles generally by having a routine of exercises to go through two or three times a week. In setting up his routine, he must remember that many muscles of the body are used, as wrestling is an activity that is a good general muscular developer.

Training of the beginner is usually started with those easily-learned holds which are taken from a standing position. The first things taught him should be the dive for the opponent's legs, the methods of holding a man to the mat, taking him out of position, and pinning him to the mat. Since the development of the neck is very important on account of the strain placed upon it in wrestling, he should use the bridge, which is a fine developer of neck and back muscles. The bridge position is lying on the back, hyperextending the neck and drawing the feet up under the body several times, then turning the body over, having the head as the pivot point. The abdominal muscles may be developed by the use of the medicine ball, working on the abdominal stool, and practicing abdominal exercises such as lying on the back, raising the trunk and attempting to touch the toes of the extended legs with the finger tips. The arms may be developed by working on the bars, the ladder, by rope climbing and by exercising on the rowing machine. The latter apparatus may also be utilized to great advantage in building up the back muscles. To develop agility, the wrestler should do a great deal of rope skipping, and play a fast handball game occasionally. He should start out the season with light track work in the form of jogging and speed work alternately, and should continue with this on through the season after the work on the mat. The latter part of the early training period should be devoted to giving the inexperienced man an opportunity to acquaint himself with a large variety of

holds. Thus in a few months, he should learn many holds and the way in which to block them.

After an offense has been learned, the wrestler should turn his attention to defense, concentrating on blocking his opponent's moves and learning methods of escaping from the underneath position, working on holds, and their breaks. These workouts now should be from one to two hours, five days a week.

As the first contest approaches, it is good policy to have a few trial matches at the regulation length of time. The contestant should wrestle with others of his size and ability. This gives good experience and shows him the right speed that he should use, so as to last the entire match.

Since he is now wrestling practice matches, he should warm up well before them. This warm-up should be from fifteen to thirty minutes, with exercises to which he is accustomed. Rope skipping or pushing and tugging around with a team mate are as good a method as any. In order that the body may become warm quickly, and with less expenditure of energy, he should wear sweat clothes during this warm-up period, and keep warm until he steps on the mat. The wrestler should be warmed up to the point of breaking into a sweat. His heart and lungs will be prepared by the warm-up for the more strenuous workout that is to follow, and the danger of strains, sprains and dislocations will also be reduced.

Rest should be prescribed the day before the first match on the schedule, and the same for the second match, depending on the condition of the individual. After the second match, only three workouts a week should be held. This has proved very successful. This goes a long way toward preventing staleness, and gives the body a chance to store up a little more energy, as wrestling uses up a great amount of energy in a very short time. Occasionally, the workout should consist of no more than a rehearsing of holds and no actual wrestling.

One item that confronts many wrestlers is maintenance of weight. Once the weight at which the individual is going to wrestle is decided upon, he should start to meet this weight, going below it a couple of pounds. This should be done ten or fourteen days before his first match. This gives the body a chance to accustom itself to the new condition, and he can start to put weight on. When an increase in weight begins to show, it is a sign that the body is in good physical condition. The wrestler should not attempt to re-

duce too low, as it is injurious to his health. The extent to which a man can reduce his weight without injury to his health and wrestling ability, depends upon the individual. Those individuals who are too fat can remove this excess avoirdupois through diet and good hard wrestling. This weight, however, should be taken off slowly. Reducing excessively is not beneficial to a mature wrestler, as it cuts down on speed, strength and endurance. The last bit of reserve strength which is needed in the climax of the battle is lacking. Weight should not be reduced too rapidly, but slowly over a long period of time. The experienced wrestler should start his training at least one month before his first encounter. Running should be done in the morning as it is not usually a good policy to run in the afternoon when mat workouts are being taken.

Diet

It is hard to limit the individual to a certain diet, as some foods will not agree with all people. What is food for one is poison for another. The meals should be eaten regularly and be well balanced. If the wrestler is greatly overweight, as is sometimes the case early in the season, he should "cut down" on fat-producing foods (the carbohydrates and fats), but not eliminate them from the diet entirely. The wrestler, like any other athlete, should study his diet carefully and find out what agrees with him and what does not.

Keeping close tab on his weight will tell him when to abstain from, or reduce the amount of, fat-producing foods and when to increase them. The meal before the match is the one that he should watch carefully. He should eat at least five hours before the match, and not too much, that is, he should get up from the table a bit hungry. The wrestler should wrestle on an empty stomach. If he eats sugar before the match it should be eaten twenty-four to forty-eight hours before. On the day of the match, he should eat a very light breakfast, and have a meal about three o'clock, if he is going to wrestle at eight that evening.

If on the day before a match the wrestler is overweight, he should reduce his liquid intake, and if too far over, reduce the amount of solids ingested. If it is necessary to exercise some to aid in reducing, he should wear a rubber shirt or heavy sweat suit, while working out. He should not depend upon the steam room to too great an extent, as it is weakening.

Infections

There is one ghost that is always haunting the wrestling room, and that is infections. The mats upon which workouts are held should be cleaned every day. A common injury to the wrestler is the abrasion or mat burn which often becomes infected. This infection is often spread through contact with other members, as well as by the mat. The knees, elbows and shoulders especially are involved. One wrestler may spread the infection to the whole team. In the case of an abrasion or mat burn, the player should have it treated immediately after taking his shower. In the treatment, the skin around the wound should be shaved, and if there is hair in the wound, as much of it as possible should be removed with sterile surgical scissors. Then an antiseptic such as 2 per cent iodine, athletic dressing, or nitroban should be applied, which are quite effective in the prevention

of infection. The wound should be dressed twice daily. As long as it shows no sign of infection, the old dressing should be replaced with a new sterile dressing. At the first sign of infection, the case should be referred to the doctor for treatment.

Common Wrestling Injuries

As far as injuries occur, the following are common: hernia of the biceps muscle is sometimes found as a result of a bruise. The sheath of the muscle is ruptured, and as the particular muscle contracts, it bulges out through the muscle sheath. The separation of the acromia clavicular articulation (outer end of the collar bone and acromion process of the scapula); Sprains and dislocation of the shoulder and elbow joints; Concussion of the brain; Cauliflower ear and "black eye" may be mentioned. The proper warm-up, improvement in physical condition and in wrestling ability aid in the prevention of

most of the above injuries. Minor muscle injuries as strains and bruises respond to treatment, including application of cold immediately after the injury for forty-five minutes or one hour; heat (dry or moist) twenty-four hours after the injury two or three times daily and rest of the injured part. The other injuries mentioned should be referred to the doctor for follow-up treatment. Many cauliflower ears may be prevented by the wrestler wearing a protective head gear during practice matches, and having pressure placed over the injured ear as soon as the injury is acquired, such as a piece of sponge rubber which is held in position by a roller bandage over it and around the head. This tends to check or limit the bleeding.

Much stress is being placed upon wrestling, since it is a fine body developer, and aids in developing qualities that are especially needed by the youth as well as by the adult at this particular time.

Food for Future Fliers

By Roland F. Logan, Lieutenant U.S.N.R.

Head Trainer and Dietitian, United States Navy Pre-Flight School, Chapel Hill, North Carolina

THE theory that America's armed forces are the best fed in the world is an established fact at the United States Navy Pre-Flight School at Chapel Hill, North Carolina, where some 1,800 cadets get 5,200 calories daily, while pursuing the strenuous physical fitness program aimed to make them the toughest and best fighters in the war-scorched skies.

A body-building, energy-yielding diet is supplied the cream of America's youth and, as the result, they can click off a twenty-mile hike, play a full game of football, box at full speed for five or six rounds and run the 607-yard obstacle course all in one day—and be ready for more of the same the next day.

The daily diet is properly selected for its calorie value, its vitamin content and its tastiness. Good wholesome food and plenty of it is necessary to carry the cadets through the long strenuous day of physical, military, and academic drills. A diet heavy in carbohydrates (sugar and starches) is elemental to a man as active as these cadets are. Proteins, fats, mineral substances have to be allocated properly through the daily diets to promote the greatest energy.

Fried, greasy foods are not fed to these men in this vigorous physical activity program. Such foods stimulate regurgitation and general intestinal discomforts.

Between the two main periods of the morning's activities the men engaged in the physical and military drills are fed at least a pint of milk or a plain milk

chocolate bar to provide sufficient energy to carry them through the long morning. A truck brings this morning snack directly to the field and the food is served there, cafeteria style. This does not upset the curriculum time nor delay the day's program.

During warm weather an excess amount of salt is fed to the cadets. Twice each day each cadet is fed one 10-grain salt tablet to make up for the loss of salt in the processes of dehydration. This eliminates much fatigue and possible heat prostration during the long hot days. Salt is fed to the varsity corps squad men engaged in contests during the summer, early fall, and late spring seasons. Seasonal and climatic conditions determine the general usage of salt.

Fancy, highly spiced and dainty foods are not included on the dietary needs of these men. Wholesome food, well cooked, prepared plainly, and served hot is the best to get the greatest results. Fatty meats, much-liked foods are not served. Dark breads are served at least twice each day. The bread at breakfast and dinner is toasted. Desserts are served at the supper meal and luncheon; the lunch dessert is fruit. Coffee is served at breakfast and supper only.

Not mentioned in the menu sheets are the fundamental facts that each man should be served at least twelve (12) ounces of milk at breakfast, twelve (12) ounces at dinner and sixteen (16) at supper. In addition, he receives at least a pint of milk (on certain days at the mid-

morning snack period which is just before 10:00 o'clock). Two slabs of butter are served at each meal. Water is on the table at all times. Not more than one cup of coffee is served at any meal. Cocoa is served at various times to eliminate the monotony of the diet. It must be remembered that a large percentage of these men need building up. Some of their diets prior to entrance no doubt have been inadequate. This thought is considered particularly in respect to body-building items on the menus.

It is not intended that these menus be followed to the letter. Fresh fruits and vegetables in season are used, whenever possible. Frozen vegetables are used as often as possible, when fresh vegetables are not in season. Availability and climatic conditions determine this factor. This must be considered in the use of meats, fish, etc. Proper amounts of carbohydrates, fats, proteins, vitamins, minerals, and water were considered in the general building of this diet. These, however, may be altered in some cases, depending upon seasons of the year and physical condition of the cadets.

During the fall and spring a combination of the above factors is considered in the final building of the diets. The naval officer in charge of the menus checks with the university mess officials regarding such changes.

Specifically, for the winter menus, large amounts of fresh fruits and vegetables are used, when available; large amounts of whole milk and cheese are used, espe-

BREAKFAST

Fruit Cup	4 oz.
Dry Cereal	1 oz.
Lamb Chop (1)	4 oz.
Stewed Apples	4 oz.
Wheat Toast	2 sl.
Butter, Jelly	
Coffee, Milk	16 oz.

BREAKFAST

Grapefruit Juice	6 oz.
Dry Cereal	1 oz.
Plain Omelet	2 egg
Broiled Ham	4 oz.
Sweet Buns	2
Butter, Jelly	
Coffee, Milk	16 oz.

BREAKFAST

Orange	1
Dry Cereal	1 oz.
Scrambled Eggs	2
Crisp Bacon	2 sl.
Raisin Toast	2 sl.
Butter, Jelly	
Coffee, Milk	16 oz.

BREAKFAST

Pineapple Juice	6 oz.
Dry Cereal	1 oz.
Salmon Cakes	4 oz.
Tomato Sauce	
Steamed Rice, Molded	4 oz.
Wheat Toast	3 sl.
Butter, Jelly	
Coffee, Milk	16 oz.

BREAKFAST

Grapefruit	½
Dry Cereal	1 oz.
Boston Baked Beans	4 oz.
Canadian Bacon	3 sl.
Wheat Toast	2 sl.
Butter, Jelly	
Coffee, Milk	16 oz.

BREAKFAST

Tomato Juice	6 oz.
Dry Cereal	1 oz.
Sausage & Gravy	4 oz.
Hash Brown Potatoes	4 oz.
Wheat Toast	2 sl.
Butter, Jelly	
Coffee, Milk	16 oz.

BREAKFAST

Diced Peaches	4 oz.
Dry Cereal	1 oz.
Scrambled Eggs	2
Cheese Toast	1 sl.
Wheat Toast	2 sl.
Butter, Jelly	
Coffee, Milk	16 oz.

MONDAY**DINNER**

Candied Ham	8 oz.
Baked Potatoes	5 oz.
Creamed Diced Carrots	6 oz.
Head Lettuce, 1000 Is. Dress.	
Hard Rolls	2
Butter, Jelly	
Iced Tea, Milk	16 oz.
Canned Plums	2

TUESDAY**DINNER**

Roast Leg Lamb, Gravy	8 oz.
Steamed Brown Rice	5 oz.
Creamed Peas	6 oz.
Lettuce and Tomato Salad, May.	
Hard Rolls	2
Butter, Jelly	
Lemonade, Milk	16 oz.
Fresh (Delicious) Apple	1

WEDNESDAY**DINNER**

Chow Mein (Veal and Beef)	8 oz.
Mashed Potatoes	5 oz.
Glazed Carrots	6 oz.
Head Lettuce, Russian Dressing	3 oz.
Graham Rolls	3
Butter, Jelly	
Iced Tea, Milk	16 oz.

THURSDAY**DINNER**

Lamb Chops	8 oz.
Steamed Rice	5 oz.
Sliced Pickled Beets	6 oz.
Perfection Salad	
Hard Rolls	2
Butter, Jelly	
Lemonade, Milk	16 oz.

FRIDAY**DINNER**

Baked Trout, Tartar Sauce	8 oz.
Creamed Diced Potatoes	5 oz.
Mashed Rutabagas	6 oz.
Deviled Egg Salad	
Graham Rolls	3
Butter, Jelly	
Iced Tea, Milk	16 oz.
Fresh (Delicious) Apple	1

SATURDAY**DINNER**

Creamed Chipped Beef	8 oz.
Parsley Potatoes	5 oz.
Buttered Peas	6 oz.
Apple, Pineapple, Celery Salad	
Hard Rolls	2
Butter, Jelly	
Lemonade, Milk	16 oz.
Butterscotch Ice Cream	

SUNDAY**DINNER**

Fricassee Chicken (Navy style)	8 oz.
Mashed Potatoes	5 oz.
Buttered Collards	6 oz.
Cabbage, Pineapple Salad	
Graham Rolls	3
Butter, Jelly	
Iced Tea, Milk	16 oz.
Peach Ice Cream	

SUPPER

Grilled Veal Chop	8 oz.
Mashed Sweet Potatoes	5 oz.
Green Lima Beans	6 oz.
Pineapple, Cottage Cheese Salad	
White Toast	2 sl.
Butter, Jelly	
Milk	16 oz.
Buttered Pecan Ice Cream	

SUPPER

Beef Roll Roast	8 oz.
Vegetable Gravy	
Potatoes Au Gratin	5 oz.
Creole Cabbage	6 oz.
Mixed Fruit Salad	
White Toast	2 sl.
Butter, Jelly	
Milk	16 oz.
Chocolate Pudding	

SUPPER

Meat Loaf	8 oz.
Blackeyed Peas	6 oz.
Buttered Spinach	6 oz.
Carrot and Celery Strips, Olives	
White Toast	2 sl.
Butter, Jelly	
Milk	16 oz.
Strawberry Ice Cream	

SUPPER

Cold Cuts	6 oz.
Waldorf Salad	4 oz.
Sliced Tomatoes	3 cuts
Asparagus Tips	6 oz.
White Toast	2
Butter, Jelly	
Milk	16 oz.
Apple Brown Betty, Hard Sauce	

SUPPER

Grilled Hamburger Steak	8 oz.
Onion Gravy	
String Beans	6 oz.
Cauliflower, Cheese Sauce	6 oz.
Sweet Relish Salad	
White Toast	2 sl.
Butter, Jelly	
Milk	16 oz.
Chocolate Ice Cream	

SUPPER

Grilled Western Beef Steak	8 oz.
(Home Cut)	
Creamed Potatoes	5 oz.
Peas and Carrots	6 oz.
Chilled Sliced Tomatoes	2 cuts
Mayonnaise	
White Toast	2 sl.
Butter, Jelly	
Milk	16 oz.
Raisin Bread Pudding	

SUPPER

Cold Cuts	6 oz.
Potato Salad	5 oz.
Pickled Beets	6 oz.
Sliced Yellow Cheese	2 oz.
White Toast	2 sl.
Butter, Jelly	
Chocolate Fudge Cake	
Milk	16 oz.

cially if eggs and butter are curtailed in amount; larger amounts of canned or dried fruits and vegetables are used; and more whole grain products are listed in the menus.

For the summer menus, smaller amounts of meats, fatty foods and rich desserts are specified; liberal use is made of fruits, vegetables, eggs, and milk. Cool foods, and drinks are specified; cold teas, lemon juices are substituted for coffee and cocoa on warm and hot days.

A menu for the week, September 21-28, given on the preceding page, serves as an illustration of the body-building, energy-yielding diet supplied the cadets in training at the North Carolina Pre-Flight School.

The National Athletic Trainers Association

LAST year the readers of the Trainers Section were made thoroughly acquainted with the organization known as the National Athletic Trainers Association. With the many changes that have taken place in the coaching and training profession this year, due to the war, it is quite natural that many requests come to the editor's desk for additional information, hence the reprinting of the qualifications for membership in the Association.

A few years ago the trainers in attendance at the Drake Relays founded the organization. There was no intention on the part of these men to limit the mem-

bership to college trainers, hence three types of membership, as listed below, were set up. For the first few years, the members were contacted by the secretary through informal mimeographed bulletins. Last year the Association attempted, for the first time, the publication of a Trainers Journal, and a basic rate of one dollar was established as a subscription rate for the publication to members of the Association. The erroneous impression has gone out that coaches and trainers may remit only one dollar for the publication without becoming members of the Association. The publication may be secured by others than members, but the established rate of one dollar and a half must be paid. On the other hand, membership may be secured in the Association without a subscription for the publication. In that case the dues of one dollar for senior or junior membership, or fifty cents for associate should be remitted direct to the Treasurer of the National Athletic Trainers Association, Iowa City, Iowa. To expedite the entering of subscriptions, the orders for subscriptions only, or those orders for membership and subscription should be sent to the office of the publication, 6858 Glenwood Avenue, Chicago, Illinois.

Athletic Trainers in the Service

(Continued from page 42)

cadets. Lieutenant Roland F. Logan, author of the article on, "Diet for Navy Fliers" in this issue, heads the staff at the

Chapel Hill School. Logan's training record is an interesting one. A graduate of the University of Kansas in 1930, he served for three years as assistant football coach and head trainer.

It was here that his training career began to include many "greats" of athletic history such as Glenn Cunningham, whom he had an opportunity to train. During his three years at George Washington University as head basketball coach, assistant in football and head trainer, Tuffy Lemans came under his tutelage; in the three years as head trainer of the Boston Red Sox, Grove, Foxx, Cronin, Newson and Chapman may be mentioned; in his year and a half at Pittsburgh University, the "Dream Backfield" of Cassano, Stebbins, Checkerano and Goldberg was heralded the country over; and in the three years at the United States Military Academy, Harry Stella and Henry Mazer are but a few that may be mentioned.

At Chapel Hill, Logan's staff includes Lieutenant (j.g.) Howard Haak, baseball player in the International League for five years and head trainer of the Rochester Club in the International League for seven years; Allan Cook, Ph.M., former outfielder with the New York Yankees and the Boston Red Sox and Eugene Logan, Ph.M., formerly assistant trainer at the United States Military Academy for one year, and head trainer for one year at the University of Tulsa.

Bill Fallon, a veteran of twenty-five years of training experience, six at the University of Michigan, four at Missouri, nine at Wisconsin and six at California, is head of the staff that keeps the future fliers at St. Mary's Pre-Flight in condi-

QUALIFICATIONS FOR MEMBERSHIP IN THE NATIONAL ATHLETIC TRAINERS ASSOCIATION

SENIOR MEMBERSHIP: 1. Men who have been actively engaged in athletic training or closely allied work for a period of two or more years. 2. Men who are qualified to take charge of the work, in co-operation with the medical department and to direct it in athletic training in a college or university. 3. Men who have had four years of practical experience in a recognized athletic training department of a college or university or some other institution of recognized standard.

Senior members have voting privileges.

JUNIOR MEMBERSHIP: 1. Men who do not qualify as Senior members but who are actively engaged in athletic training either as an assistant in a college or university. 2. Men in charge of the training program in a high school, or in closely allied work. 3. Men who are taking an approved training course.

Any Junior member may become a Senior member upon completing the requirements for Senior membership and passing an admission test given

by the Membership Committee. Junior members do not have voting privileges.

Senior and Junior applicants must submit along with the application blank a letter of endorsement from the physician who acts as medical supervisor in their institutions.

ASSOCIATE MEMBERSHIP: 1. Men who have not been actively engaged in athletic training for a period of eighteen months previous to their application. 2. Junior or Senior members who have not been actively engaged for a period of eighteen months, but who are interested in the advancement and recognition of athletic training. 3. High school coaches and student high school trainers.

Associate members do not have voting privileges.

Senior and Junior membership dues are one dollar per year. Dues for Associate members fifty cents. Applications for membership should be addressed to Bill Frey, Secretary and Treasurer, Iowa City, Iowa.

tion. His assistants are Robert Officer, for eighteen years trainer at the University of Oregon; Lieutenant (j.g.) J. S. Deberly, athletic director of Turlock, California, High School and former assistant trainer at the University of California and Lieutenant (j.g.) W. J. Brace, formerly at the University of Iowa.

At the Iowa City Pre-Flight School Lieutenant Lloyd Stein who had served as the University of Minnesota trainer for eight years, is assisted by Lieutenant (j.g.) Elwin Dees, former trainer at the University of Nebraska, James MacDonald, trainer of Western Michigan College teams, Wally Bock, Chicago University trainer and Bill Frey, Secretary-Treasurer of the National Athletic Trainers Association.

Other members of the Association are on active duty. F. M. Fitzgibbons, last year head trainer at Toledo University, is now in the Coast Artillery Anti-Aircraft Corps, stationed at Fort Bliss, Texas. Tom Gibbins, former track coach at the University of Arizona, is a captain in the Army Air Force. Jack Stuart, head trainer at the University of Mississippi, is on a destroyer in the Pacific.

Carl Erickson's staff at Northwestern has changed this year. His two long-time assistants, Bob Peterson and Jack Williams, going to other posts. Peterson is trainer and equipment manager at Great Lakes Naval Station; Williams is trainer at the University of California.

Honor Comes to Roland Bevan

THE Touchdown Club of New York City has for many years presented a trophy each year to the coach or official who has made a contribution of permanent value to football. This year the signal honor came to Roland Bevan, trainer at the United States Military Academy, the first time in the history of the organization that an athletic trainer has been so honored.



Roland Bevan

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To meet the demand for taping pictures used in last year's Training Section, reprints have been made of Taping for Ankle Injuries, Foot Injuries, Knee Injuries, Hamstring Tears. (Pictures only, no reading matter.)

Price twenty-five cents

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Announcements

Army and Navy Insignia

Posters showing the insignia of the Army and Navy may be secured by writing the Witchell Sheill Company, 1635 Augusta Blvd., Chicago.

This company is beginning in this issue a roster of the college and university coaches now in the various services. It is not the intention to omit any names and the company will appreciate information from athletic departments regarding members of their staffs.

Taping Films

Taping Technique a, 16 mm film—both sound and silent—is available for bookings. Trainers and coaches should address their requests to The Bike Web Company, 41 West 25th St., Chicago.

Handbook on Athletic Injuries

If you haven't secured your Handbook on Athletic Injuries, communicate at once by card or letter with The Denver Chemical Mfg. Co., 163 Varick Street, New York City.

Seal-O-San

If you have not received the 1942-1943 edition of Seal-O-San Basketball Coaches Digest, write for your copy at once. Play diagrams, illustrations, articles on offense, defense, and fundamentals are included in this attractive Digest. Address your request to Huntington Laboratories, Inc., Huntington, Indiana.

Basketball Ratings and Forecast

Read carefully the announcement of the Converse Rubber Company on page 23, regarding the Dick Dunkel Basketball Rating and Forecast for the 1942-1943 season. For further information address the company at Malden, Mass.

Footwork in Sports

The fourth of the Series on Footwork in Sports, the second in the Basketball Series, appears in this issue. Keep your series complete by requesting at this time the Line Play and Backfield illustrated series which appeared in the October and November issues. Write John T. Riddell, Inc., 1259 Wood Street, Chicago.

The Observer

Do you have your name on the Ivory System mailing list to receive the monthly issues of *The Observer*? Full of helpful suggestions on the care of athletic equipment, so very important these days. Write the Ivory System, Peabody, Mass.

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